The Demand for Osteopathy Grows, So Our Colleges Neea More Students

THE JOURNAL OF THE AMERICAN OSTEOPATHIC ASSOCIATION

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Head, Trunk and Extremities — On the Chest — Brain, Spinal Cord and Nerves
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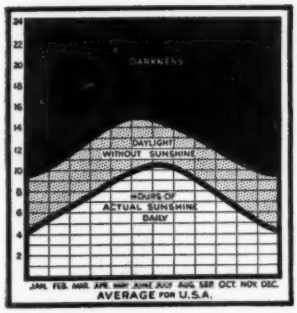

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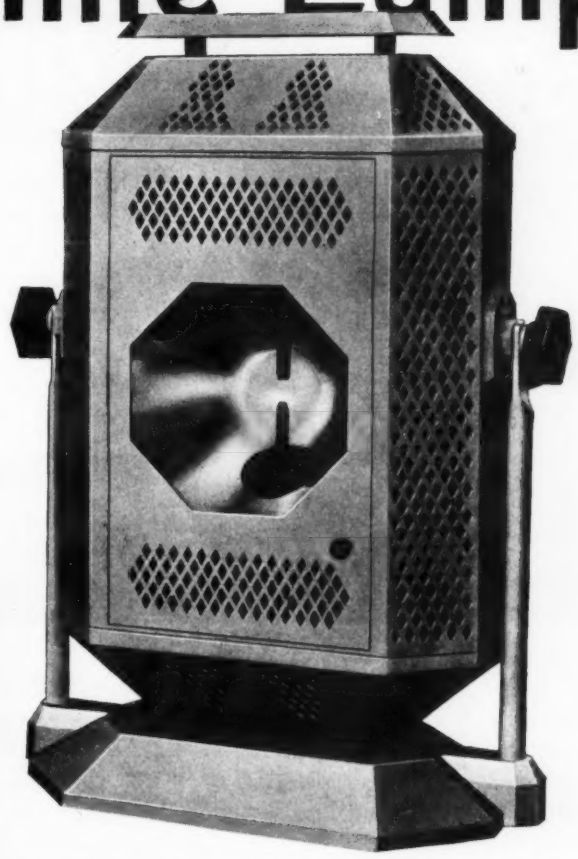

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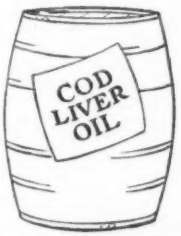

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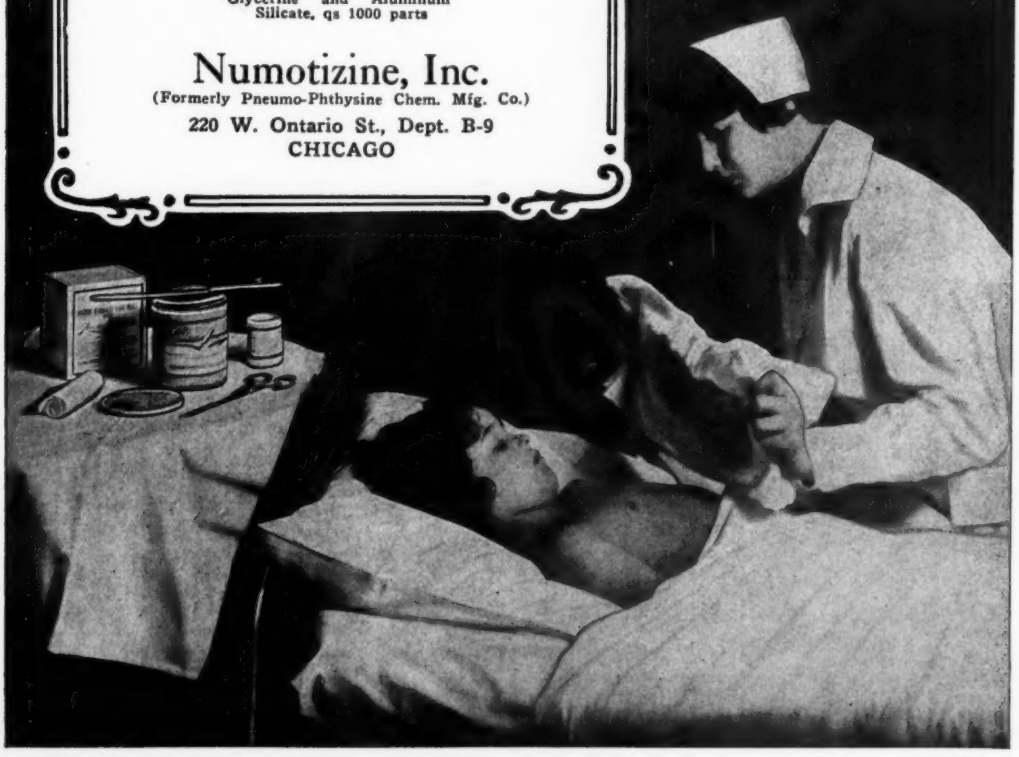

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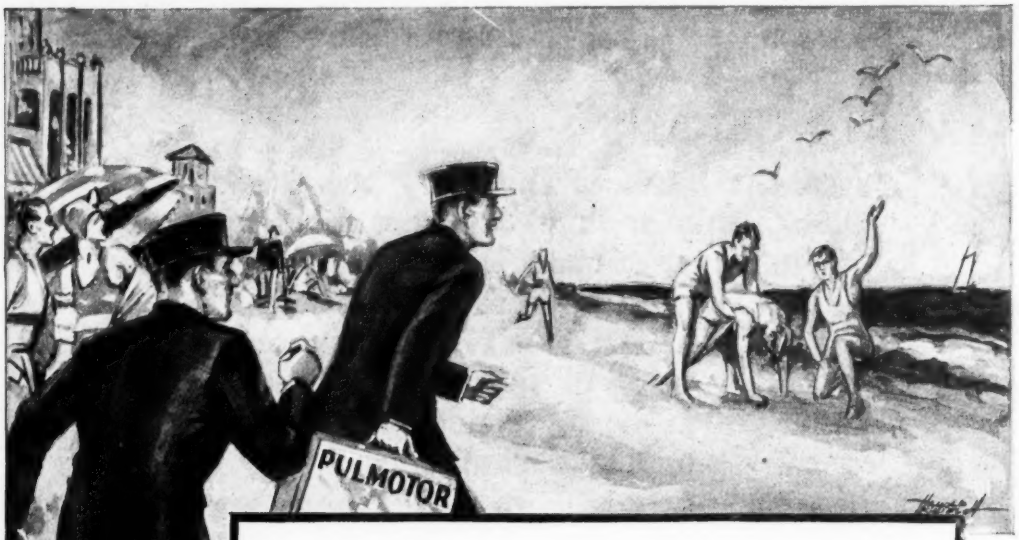

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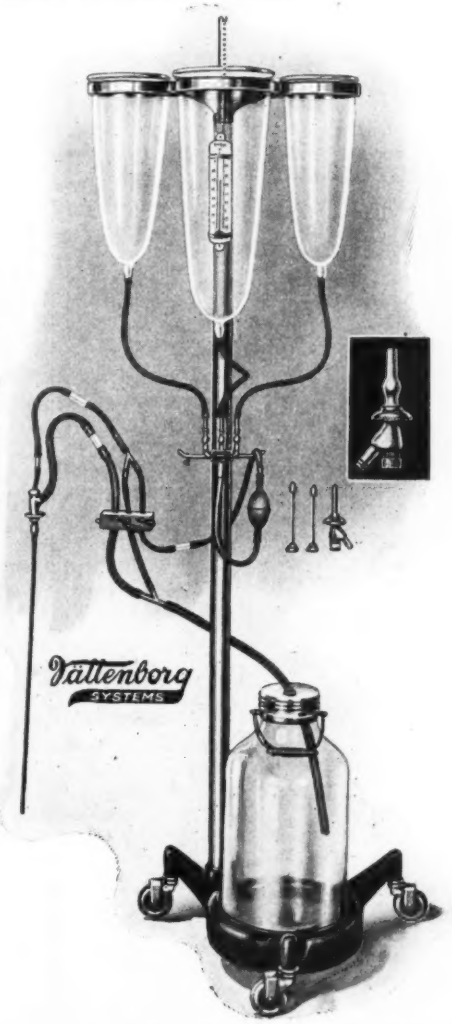

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Bony Lesions and Blood Pigments

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Any reader of the books of Dr. A. T. Still must be deeply impressed with his frequent references to the importance of the blood, and of a thoroughly efficient circulation of the blood, in the maintenance of health and in recovery from disease. The study of the blood itself thus becomes a matter of great interest to osteopathic physicians.

The changes which occur in the blood cells as a result of various bony lesions have been described in various papers printed in this Journal during the past few years. As a result of studies made of the patients of local osteopathic practitioners in the Clinical Laboratory of The A. T. Still Research Institute, in Los Angeles, and some study of old records of the clinic patients in The Pacific College of Osteopathy, the changes in blood pigments due to bony lesions can be reported with greater practical usefulness. It is now known that normal circulation of good blood through the red bone marrow is essential to normal development of hemoglobin, and that lesions of the ribs or vertebræ may so affect the circulation through the rib marrow—the most important blood-forming field in the body—that red cells are formed and are thrown out into the general circulation, with decidedly inefficient hemoglobin supply.

Bile salts.—

It is known also that the bile salts tend to cause hemolysis, and that lesions of the vertebræ and ribs which interfere with the circulation of the blood through the liver cause the presence of small but harmful amounts of bile in the plasma, with resulting hemolysis. The toxic materials absorbed from an abnormal intestinal tract also cause hemolysis, and lesions affecting the muscles and the innervation and circulation of the intestines are often responsible for this form of toxemia.

Carotin.—

Carotin and related vegetable pigments are taken into the body with vegetable foods. Persons with lesions affecting the liver or the kidneys are unable to eliminate the carotin, which then accumulates in the blood plasma and causes various symptoms of malaise, headache, torpor and insomnia. The correct treatment for this condition includes the correction of such lesions as well as a reduction of the colored vegetables in the diet.

Carbon monoxid.—

The breathing of the fumes produced by imperfect combustion of gas, gasoline, oil and certain other substances used as fuel or as a source of power is a recent and very serious danger. Carbon monoxid is a non-irritating and odorless gas which is often quite abundant in the vicinity of automobile traffic on city streets. Carbon monoxid may be so abundant as to constitute a real danger in kitchens containing a gas stove, in garages, in houses whose pipes are leaky, in rooms heated by stoves which burn wood or coal and which become red hot occasionally. Other gases, more or less irritating, are produced with the carbon dioxid and these also may be poisonous. Such gases may have an odor and this may lead to an investigation of the conditions, thus removing the danger of the associated, but more dangerous, carbon monoxid. Anti-freeze mixtures used for automobile radiators in cold climates add to these dangers, by their evaporation, and, sometimes, their partial combustion when the engines become heated. All dangers from the fumes of automobiles are increased by traffic jams and the necessity of stopping, starting and running in low speed.

Carbon monoxid forms a stable union with hemoglobin and the molecules of hemoglobin so affected are ruined forever. Such a molecule cannot give off the carbon monoxid and it cannot take up oxygen. Yet the red cells containing carbon-monoxid-hemoglobin must be carried around with the rest of the blood as long as those red cells remain present. How long such cells remain in the circulation is not known, but the peculiar cherry-like tint due to the presence of considerable amounts of carbon-monoxid-hemoglobin is perceptible for two months or more after the patient ceases to breathe the injurious fumes.

After a time, the affected red cells are destroyed, as all red blood cells are destroyed when their functional value is diminished. The pigments derived from the destruction of carbon-monoxid-hemoglobin remain in the blood plasma and may give a peculiar purplish tinge to the blood serum in certain cases, though in other cases this is not perceptible at any time. Ultimately this pigment is eliminated from the body as the coloring matter of the bile and the urine.

During the time the red cells injured by carbon monoxid remain in the circulating blood, they act as a definite burden upon the functions of all the body. By their presence in the lungs they tend to interfere with the exchange of oxygen and carbon dioxid of the normal blood cells, and by their presence in the tissue capillaries they mechanically impede the exchange of carbon dioxid and oxygen. Since the respiratory functions of the lungs are thus diminished, respiratory movements increase. Since the oxygen supply to the tissues is subnormal there is a tendency to acidosis and toxemia. The respiratory center is thus stimulated and the heart has an increased burden thrown upon it. Indirectly or directly, poisoning by carbon monoxid, slight and almost constant, as is usually the case with such patients, interferes with the

normal functions of practically every tissue of the body. Weakness, malaise, hurried breath, rapid pulse, dull headache and other non-pathognomonic symptoms result from this form of poisoning. Bony lesions affecting the circulation through the red bone marrow limit the ability of the hemopoietic tissues to build new cells to take the place of those destroyed. Bony lesions affecting the innervation and the circulation of the kidneys and the liver prevent efficient removal of the toxic products of the destruction of the injured cells.

Bile salts.—

Bile salts tend to lower the surface tension of any solution in which they occur, and this is true of the blood plasma, in which they occur whenever there is any abnormal condition affecting the circulation of the blood through the liver. Probably by means of this peculiarity (the lowering of surface tension) the bile salts tend to injure the red cells of the blood whenever they gain access to them. It must be remembered that the hemoglobin is held in the erythrocyte stroma by means of a rather feeble chemical union of the hemoglobin with the cholesterol of the stroma, and that bile salts, especially the cholic acid of the bile, are active solvents of cholesterol. Whenever there is any considerable amount of bile salts in the blood plasma, then there is some dissolution of the cholesterol of the stroma of the blood cells, some hemoglobinemia and resultant hemoglobinuria.

Disease of the liver, bony lesions.—

The disturbance of the circulation through the liver may be due to actual disease of the liver, such as cirrhosis, cancer or other serious pathology, or it may be due to bony lesions alone. Lesions of the eighth to the tenth thoracic vertebræ and the corresponding ribs are known to affect the circulation through the liver and the activities of the muscle fibers of the larger bile ducts. There is much evidence indicating that these same lesions tend to affect the walls of the gall-bladder and of the ductus choledochus. In many case reports of human subjects, the finding of bile in the blood plasma and of the lesions mentioned has been followed by correction of the lesions, the disappearance of bile from the blood plasma and of hemoglobin from the blood plasma and the urine, the disappearance of fragmented blood cells from the general circulation and relief of the anemia usually associated with cholemia.

Intestinal bacteria.—

Products of putrefaction cause hemolysis also. The intestinal tract is the most common source of the products of putrefaction during life, and this occurs most abundantly when an excess of proteid food is taken into a digestive tract which is too abundantly supplied with putrefactive bacteria. The fact that this excess of putrefactive bacteria is present is indicated clinically by the fact that they cause extremely foul-smelling stools, and is definitely demonstrated by the bacteriological examination of the feces. Under such conditions the products of putrefaction occurring within the intestinal tract may be absorbed into the blood stream, destroy the red cells, and thus cause hemoglobinemia and hemoglobinuria with resultant anemia.

While the presence of the putrefactive bacteria is due to the intake of these germs with the food, they are provided with their best environment whenever there is stagnation of the intestinal contents and a subnormal supply of the digestive juices. The most common cause of this stagnation is a lack of proper innervation of the intestinal muscles, and the most common cause of the disturbed innervation is found in a bony lesion. For the upper part of the intestines and the stomach, lesions of the sixth to the eighth thoracic vertebræ and the related ribs are usually the most important etiologically; for the lower part of the small intestine and the colon, lesions of the ninth and tenth thoracic vertebræ and ribs, and of the upper lumbar vertebræ are most commonly found responsible for the abnormal condition. When such lesions are present there is always some slowing of peristalsis, some tendency of the intestinal contents to lag and to undergo putrefaction and fermentation, and a marked opportunity for absorption of the abnormal substances produced by these processes acting upon the digesting food materials. The products of fermentation are not hemolytic, but the products of putrefaction are markedly hemolytic. The place of bony lesions in encouraging intestinal putrefaction should be clearly recognized.

Lead poisoning, malaria.—

There are several diseases and several poisons which are characterized by their destructive action on the red blood cells. Lead is one of these poisons and the lead poisoning often found among plumbers and painters may be associated with all the symptoms and all the blood findings of pernicious anemia. Malaria is a disease in which the infection agent, a plasmodium, attacks the red blood cells and destroys them. The pigments set free by the destruction of the red cells by these, as by other destructive agents, are broken down, the useful moiety retained to be used again in the manufacture of new red cells, and the useless pigment radicles are eliminated from the body as the pigments of the bile and the urine. Bony lesions which interfere with the normal functions of the liver and the kidneys interfere also with the removal of these katabolic wastes. Lesions which interfere with the circulation and the nutrition of the red bone marrow, especially of the ribs, interfere also with the ability of the body to rebuild new cells.

THE ORIGIN OF HEMOGLOBIN

The globin part is derived from the proteid foods of the body, and the iron from the iron-containing foods, which also are usually associated in the most adequate foods with some globulin.

Before birth a supply of iron in a form easily utilized in the building of hemoglobin is stored within the body of the fetus, apparently chiefly in the liver. This supply of iron provides all needs for almost or quite a year after birth. There is almost no iron in milk, and by the time the nursing period is ended the baby must be taking with his food enough iron to maintain his hemoglobin supply. This is one reason why babies who are kept for too long a time on an exclusive diet of milk become anemic. With a mixed diet, a very abundant supply of iron is taken into the body, so that it is never necessary to add iron-containing foods to a diet of ordinarily wholesome foods, taken into a body which is almost or quite structurally correct.

It must be remembered that anemic patients often show increased hemoglobin and generally better health upon a diet composed exclusively of milk. This fact is due to the presence of an abundant supply of iron in the liver and the other tissues of the body. The

milk diet, with its abundant supply of liquid, its ease of digestion, the good osteopathic treatments always given in osteopathic institutions, the rest necessitated by the conditions of sanitarium life and the absence of other foods, many of which are incorrectly selected for the patient, tend to eliminate toxic substances, provide rest for the digestive and eliminative organs, and supply to the body the globulins and the lipoids from which the red blood cells, both stroma and hemoglobin, are easily manufactured, using the iron molecules already present in the body in physiological combination. But this exclusively milk diet cannot be maintained indefinitely without ultimate anemia from the lack of iron. Even though the body makes excellent use of iron, and preserves so carefully the iron-containing moiety of the hemoglobin and the myohematin molecules, there must be a constant, though slight loss, and this cannot be indefinitely permitted without anemia.

For several of the organs which are supposed to be concerned in the breaking down and the rebuilding of the hemoglobin very few definite statements can be made. There is a tendency to anemia whenever certain of the ductless glands are diseased, such as the thyroid, testes, ovaries, adrenals and pancreas, but what the relation is between these glands and hemoglobin has not yet been determined. Certain forms of anemia and of leukemia are known to be associated with abnormal conditions affecting the spleen, but what the place of the spleen is in the metabolism of hemoglobin is not yet well understood. For all these organs, it may be stated that normal functioning depends upon normal circulation and innervation, and that these conditions depend upon normal structural relations of the body as a whole.

It is known also that the circulation of the blood through these various organs is affected by lesions of vertebræ; lesions of the third cervical to the third thoracic vertebræ cause abnormal dilatation of the blood vessels of the thyroid glands, and these lesions ultimately affect basal metabolism. Lesions, especially of the ninth thoracic vertebra, and of neighboring vertebræ, cause relaxation of the splenic capsule and, in time, abnormally increase the size of the spleen. Lesions of the eleventh and twelfth thoracic and the first lumbar vertebræ cause dilatation of the blood vessels of the adrenals, ovaries and testes, with later edema, acidosis, hemorrhages and degenerations of these organs. To what extent the hemoglobin is affected by these changes, and to what extent other abnormal pigments may be produced by the metabolic changes due to the disease of these organs remains to be shown by later investigations. It is known that persons subject to diseases of the adrenals, ovaries or testes often show abnormal pigmentation of the skin.

The intake of iron must be in the form of organic combinations, and these are most useful when they are associated with molecules containing the pyrrol ring. This combination is most easily secured in foods which are colored or which are easily colored on exposure to light. Chlorophyll and chromophyll are associated with organic iron. Hemoglobin and myohematin are useful sources of iron, though almost all vegetable and animal foods contain a certain amount of iron in a form easily used by the hemopoietic tissues if they have been properly digested and absorbed into the body.

If these useful foods are taken into the body in adequate amounts but are not properly digested, they cannot be used properly. Bony lesions may so affect the stomach, the intestines, the liver and the other digestive organs that the iron-containing molecules are broken down too far, with the result that the iron remains only in small organic molecules, or it may even be left in combination with inorganic atoms, thus being almost or quite without value. This is mostly the result of intestinal putrefaction, though it has been reported in other cases. On analysis of the feces it is found that almost or quite all of the iron in the food is still present and that much of it has been left in inorganic combinations. This iron is as useless in the formation of hemoglobin as are the inorganic combinations administered as such in the treatment of anemia.

AMOUNT OF HEMOGLOBIN IN THE BLOOD

The amount of hemoglobin in one hundred cubic centimeters of blood varies considerably under normal conditions according to the water content of the blood. Drinking abundantly of water tends to diminish the hemoglobin percentage temporarily. Heavy perspiration, the formation of the digestive secretions and strenuous exercise tend to increase the hemoglobin percentage. Exercise increases the hemoglobin immediately only when it is accompanied by sweating or by increased elimination by water by way of the lungs or the kidneys. Abnormally the hemoglobin is diminished by hemorrhages, bleeding and many diseases (secondary anemia) and is increased by diarrhea, diabetes, acute fevers and other abnormal conditions associated with excessive elimination of water from the body.

The hemoglobin varies in different locations and in people living under different conditions. Amounts varying from thirteen to sixteen milligrams per one hundred cubic centimeters of blood have been reported for normal blood by different investigators. Haldane's figure, 13.8 milligrams per one hundred cubic centimeters of whole blood, are now commonly accepted, with an allowable variation of ten per cent in either direction. Different types of hemoglobinometer assume different amounts of hemoglobin as 100%, and this provides a certain error in comparing reports of blood examinations made at different laboratories using different types of hemoglobinometer. Hemoglobin varies at different ages also, and for these reasons is it really unsatisfactory to base diagnoses upon blood findings in which the hemoglobin is reported as variations from 100%, considering this normal. It would be very much better if reports of hemoglobin determination were reported in terms of milligrams of hemoglobin per liter of blood, or per one hundred cubic centimeters of blood. The variations due to age have been determined by Leichtenstern as follows:

AGE	GRAMS PER 100 C.C. OF WHOLE BLOOD
1-4 days	19.329 - 21.16
8-14 days	17.869 - 16.124
8-20 weeks	15.362 - 12.928
6 mos. to 5 yrs.	10.971 - 11.373
5 yrs. to 15 yrs.	11.151 - 11.796
15 yrs. to 25 yrs.	13.034 - 13.87
25 yrs. to 45 yrs.	14.727 - 15.013
45 yrs. to 60 yrs.	12.484 - 13.15

From this table it is evident that the age of the patient must be considered in estimating the amount of hemoglobin normal for any given individual. It is the practice in the Clinical Laboratory of The A. T.

Still Research Institute to report hemoglobin in terms of grams per liter of blood, and to base the percentage reports upon the amount normal for the age of the patient. One of the hemoglobinometers in use in this laboratory (Meischer's modification of the Von Fleischl instrument) gives the reading in terms of grams of hemoglobin per liter of blood, while the Dare instrument gives readings in percentages with 138 grams per liter of blood as "normal." When the Dare instrument is used, the readings are easily converted in the grams per liter, and these figures are then easily converted in percentages of the normal amount for the age of the patient.

In this connection it should be noted that the variations in the amount of hemoglobin in normal blood at different ages just given are rather closely related to variations in the erythrocyte count at different ages. If the hemoglobin percentage and the erythrocyte percentages are determined on a basis of the normal for the sex and the age of each patient, normal blood always gives a color index of approximately one. That is, individual red cells carry about the same amount of hemoglobin throughout life, though the red cells of babyhood tend to carry slightly less than the red cells of old age.

Under abnormal conditions the amount of hemoglobin carried by each red cell varies greatly and this variation may be very significant in diagnosis and in treatment. This relationship is expressed in the form of a fraction called the color index, and is usually written as a decimal.

COLOR INDEX

This is the fraction formed by dividing the hemoglobin percentage by the erythrocyte percentage, but figures being properly based on the normal figures for the age and sex of the patient. That is, if a man twenty-five years old has a red cell count of 5,000,000 cells per cubic millimeter, and has 137. grams of hemoglobin per liter of blood, his red cells are 100% of normal and his hemoglobin is 100% of normal. His color index is 100÷100, or 1.00, which is normal.

A young baby with 200 grams of hemoglobin per liter of blood, or 100% of the normal for its age, and with 6,500,000 red cells per cubic millimeter of blood, or 100% of the normal for its age, has also a color index of 100÷100, or 1.00.

Blood from a normal adult, taken immediately after a severe hemorrhage per rhexin, shows hemoglobin 100% of normal for age, red cells 100% of normal for age, and a color index of 1.00. Within a few minutes there is a flow of lymph and tissue juices into the blood vessels, which dilutes the blood, and a few hours after the accident the hemoglobin may be 80% of normal for age, the red cells 80% of normal for age, and the color index 1.00. Within a short time after this, varying according to the severity of the hemorrhage, severity or absence of shock, and other factors, red cells are produced rapidly as a method of recovery from the hemorrhage. The radicals necessary for this rapid erythrocyte development may not be abundant in the blood and the red bone marrow at this time, and the red cells are usually thrown into the circulation with less than the normal amount of hemoglobin. In such cases a few days after a severe hemorrhage due to accident, the hemoglobin may be 60% of normal for the age of the patient and the red cells number 110 for the age of the patient. His color index is, therefore 60÷110, or 0.55, which is characteristic of secondary anemia. Normally the red cell count remains almost or quite stationary thereafter, in the case of a single accident with hemorrhage, while the hemoglobin increases slowly until the color index reaches 1.00, approximately. The red cells diminish slowly until the original normal number is reached, usually after the hemoglobin has remained at the normal figure for a few days or weeks.

In chlorosis, a disease which seems to be disappearing very rapidly, the color index reached remarkably low figures. In one case the red cells were 120% of the normal for the age of the young woman, the hemoglobin 30% of the normal for her age, giving a color index of 30÷120, or 0.25; that is, each red cell carried, on an average, one-fourth as much hemoglobin as a red cell should carry in the blood of a young woman of the age of this patient.

In certain very severe anemias, including the form usually called "pernicious," the red cells are larger than normal and each cell carries more than the normal amount of hemoglobin, though the total amount of hemoglobin may be very low. In one such case the hemoglobin was 20% of the normal for the age of the patient, and the red cells 15% of normal for age. The color index was 20÷15, or 1.33.

ESTIMATION OF HEMOGLOBIN

Hemoglobin is usually determined by comparisons of color, using different scales and different apparatus for securing accuracy of comparison. In all cases the skin must be washed with some inert aseptic solution, pricked with some kind of sterile needle, and the third drop and later drops taken for the test.

The very simplest and the least accurate is commendable as a preliminary procedure. Slips of filter paper are used. A drop of blood, the second to flow freely from a wound made by a needle, is taken from a person known to be at least free from anemia, if not known to be normal in every way. Immediately another similar drop is taken from the patient, upon the same bit of filter paper but the two drops are not allowed to touch. The difference in color is easily recognizable if there is any marked anemia. In serious anemias the red color of the patient's blood is surrounded by an area dampened by the blood plasma but not tinted red.

If the two drops seem to be equally deep in color, severe grades of anemia are ruled out. If there is any recognizable difference in the color of the two drops, more accurate methods should be employed. (It should always be kept in mind that blood examinations give much useful information other than merely the determination of hemoglobin.)

Talquist's Color Scale.—

This is the simplest and least expensive of methods, and it gives results which are sufficiently accurate to enable a physician to decide whether or not the patient suffers from any serious anemia. It consists of a book of squares of filter-paper and a page of graded red rectangles, each perforated in its center. It should be used only in daylight.

The square of filter paper is allowed to touch a drop of blood, secured in the ordinary manner, and the blood soaks into the filter paper quickly. The paper soon loses its glazed, wet appearance, and is then placed behind the perforations in the red rectangles in turn, until the color is matched. It is possible to

determine whether the color of the paper lies between any adjacent rectangles, so that intervening percentages may be read. The rectangles are numbered according to the percentage of the normal hemoglobin, —100%, 90% and so on, by tens, to 10%.

The sources of error are many. Increased viscidity of the blood permits slow soaking, and thus higher than correct readings. In severe anemias, the plasma soaks away from the corpuscles, so that higher than correct readings may be noted. In diminished viscidity the blood soaks in quickly, and the reading thus be lower than correct. The size of the drop also modifies the reading. If the reading is made too quickly, the glaze diminishes the reading; if it is postponed too long, the blood assumes a brownish tint which is usually read as higher than the correct percentage.

The place of the color scale is, as has been mentioned, for hasty and rough decision as to the necessity for an accurate blood test. If the hemoglobin as thus determined is below 75%, more accurate methods are indicated.

Sahli Hemometer.—

This method has the advantage of equal value in any kind of light, since the two solutions to be compared are acid hematin. (Hemoglobin is too unstable to be used; hence the use of the stable acid hematin, derived from hemoglobin.) The instrument consists of a mixing pipette, a graduated tube and a tube of equal diameter, partly filled with a standard hematin solution. The standard solution consists of the hematin derived from normal blood. It is made by mixing 1 c.c. of normal blood (with 5,000,000 erythrocyte count) 10 c.c. N/10 hydrocloric acid, 39 c.c. distilled water and 50 c.c. glycerin. This standard solution remains stable for some months, and sometimes for several years. It should be kept in the dark when out of use. The solution in the tube which comes with the instrument is sometimes too strong, and thus should be tested with normal blood in order that the proper corrections may be made; or the solution may be diluted until normal readings are secured with normal blood.

To use the hemometer, fill the graduated tube to 10 with N/10 hydrochloric acid. Draw the blood to 20 in the pipette; add to the hydrochloric acid. Rinse with a very few drops of water; add to the acid also; rinse the pipette with the blood-acid solution several times. Place the graduated tube in the frame with the standard tube; add water to the graduated tube until the colors are identical. The pipette is cleaned as are other pipettes employed in blood work. This method is fairly accurate when constantly used. An unexperienced observer will secure hardly more accurate readings with this than with the color scale.

Dare's Hemoglobinometer.—

This instrument probably gives the most accurate readings of those in common use. It is simple, easily and quickly read, and easily cleaned. Its use depends upon the matching of a thin layer of blood with a graduated color scale. It must be used by artificial light of yellow tint. A carbon electric lamp, a candle, an open gas light (not that produced by a mantle) or a coal-oil lamp may be used.

The glass slides are firmly screwed into the holder, with the white slide next the screw. The edges of the slides are placed against a drop of blood and the chamber filled by capillary attraction. The chamber must be completely full, including at least a part of the little trench at the upper part. The slide holder is then placed in position and the two circles matched by moving the scale around. The reading is made upon a scale on the rim of the instrument, and this scale is graded in percentages of hemoglobin. The normal in this instrument is considered 138. grams of hemoglobin per liter of blood. Carbon monoxid poisoning may affect the tint of the blood and interfere with the accuracy of the reading.

The reading must be made before the blood begins to clot, and the scale must be tested at intervals, lest it should fade and inaccurate high readings be given.

Fleishl's Hemoglobinometer has been modified by Meischer, and it is somewhat more accurate than others ordinarily used. It is too complicated for clinical use. The instrument must be used in a dark room, and the estimation requires considerable time. A book of instructions comes with each instrument, and the process need not be given space in this article. One of these instruments has been used for about twelve years in my laboratory, and while it gives fairly good results it is not to be commended for ordinary work because of its complexity.

Other methods have been employed, some of them based upon the determination of the amount of iron. The iron of the blood does not, however, vary exactly with the hemoglobin percentage, though the oxygen-carrying power of the blood does vary exactly with the iron of the hemoglobin. The presence of iron in combinations other than hemoglobin, and the presence of pigments other than hemoglobin in the blood, interfere with accuracy of the tests so far as technical requirements are concerned. From the clinical standpoint, however, any of the methods based upon color may be considered reasonably efficient.

Other pigments of the blood may cause too high readings or may so interfere with the tint of the blood that accuracy is difficult or impossible. These errors are practically negligible because they are so slight. The cherry-like tint of the blood of persons suffering from mild chronic or severe acute carbon monoxid poisoning has been mentioned. This factor of error is not present in the Sahli hemoglobinometer, in which all the hemoglobin of the blood is changed to methemoglobin before the determination is made. Bile pigments may be present in the serum to such an extent as to interfere with the accuracy of the reading in any type of hemoglobinometer. Carotinemia may also modify the readings to some extent. Free hemoglobin in the blood plasma, especially after some sudden hemolysis, may cause serious error, but these cases are very rare.

No two instruments give exactly the same reading for any given specimen of blood, and no two persons give, always, exactly the same reading using the same reading on the same blood. Reports on the hemoglobin content of the blood must, therefore, be considered as subject to slight and unavoidable errors. Variations of two per cent may be considered negligible, and no definite conclusions as to diagnosis should be made on reports showing only five per cent variations. If reports from two different laboratories are compared, and if the instrument used is not reported, variations of eight to ten per cent may be found without any real variation in the condition of the patient other than that he may have taken a little

more or a little less water, or the air may have been more or less humid for a few hours before the test was taken.

Even without any change in the condition of the patient different laboratories may give variable reports. If there is any change in the quality of the color of the blood, such as occurs when any other pigment is present, commercial laboratories may report differences amounting to twenty per cent or even more. (Commercial laboratories are those in which non-professional technicians make the tests; professional laboratories are those in which the work is done by persons who are also pathologists.) The personal equation and the type of instrument employed thus become rather important matters. It is best always to have such work done by the same laboratory and, if possible, by the same person. Variations are thus uniform and the osteopathic practitioner can judge the findings fairly adequately. If the work can be done in a professional laboratory by a technician who is also a pathologist abnormal color conditions are quickly recognized and the hemoglobin corrected for the variation due to the extraneous pigment.

The relation of bony lesions to disturbances in manufacture of new red cells and the elimination of the useless pigments must be definitely recognized if osteopathic treatment of the anemias is to be as efficient as it should be. Changes in the quality of the blood are important factors in pathogenesis under many varying conditions and are of especial interest to osteopathic physicians.

CLINICAL LABORATORY OF
THE A. T. STILL RESEARCH INSTITUTE

A Symposium on Professional Progress

PAPERS COLLECTED BY JOHN E. ROGERS, D.O.

Osteopathy—The Science of Medicine

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INTRODUCTORY

Is osteopathy going forward, or is it headed for oblivion? The answer depends in part on other questions: What is to be our attitude toward medicine in general and toward our own problems of public and professional education and legislation? Is medicine a science? Is osteopathy scientific? Is osteopathy a part of medicine? Do they occupy separate but closely related, overlapping or adjoining fields? Or is there another explanation of their relationship?

Though the opinions offered below as answers to these questions have been arrived at after extensive discussion and correspondence, they are purely personal. They are not in any way set forth as representing the official views of the American Osteopathic Association.

We shall say, then, that medicine as a whole is a science. Osteopathy is scientific. It is not a branch of medicine, nor is it something beside and on a level with, what we may call "orthodox" medicine. Osteopathy is scientific medicine, viewed from one angle, just as the so-called "old school" is scientific medicine looked at from another angle. But osteopathy as a distinctive aspect of science and as a specific art, will survive only as we intelligently exert ourselves to claim for it, its rightful place in the world of progress. And this, in turn, demands that we consider carefully our educational and legislative programs.

SCIENCE—THE ORGANIZATION OF PRESENT KNOWLEDGE

Why do we say that medicine is a science? A few definitions will answer. Science in general consists of "the ordered knowledge of natural phenomena and of the relations between them."[1] It is the "accumulated and accepted knowledge which has been formulated with reference to the discovery of general truths or the operation of general laws."[2]

Science is a growing and evolving thing. At a given stage it may be based on few and misunderstood facts, with its hypotheses all wrong. Knowledge need not be complete, nor even factual, to be scientific. "A false theory which can be compared with facts is more useful at a given state of development than a true one which is beyond the comprehension of the time. . . . The Newtonian theory of gravitation might be useless to a savage, to whose mind the animistic view of nature brought conviction and helpful ideas which he could test by experience."[1]

MEDICINE A BRANCH OF GENERAL SCIENCE

General science is a unit, divided into branches, each called a science and each subdivided into more or less overlapping parts. Thus the science of medicine is an entity within the greater unit, and it includes such subdivisions as anatomy and pathology and in another sense, surgery and obstetrics, and in still another, hygiene and sanitation—all of which overlap to some extent.

Medicine in general, then, is a science. For it takes facts, or what are assumed to be facts, and undertakes to determine their relations one to another. The art of medicine, of course, is the practical application of the science of medicine. Its object is the prevention or relief of suffering.

OSTEOPATHY AN ASPECT OF SCIENTIFIC MEDICINE

Osteopathy is scientific in its origin and its processes. As Lane[3] has said: "Still originated many various theories concerning normal and pathological physiology which have since been found to be inadequate or faulty. But in this respect he resembled all other great geniuses in biology and other sciences. The earlier investigators in all sciences were quite outside the truth in many and indeed in most, of their scientific speculations, and necessarily so. Many osteopaths, while revering the founder of the new system of healing, have seemed to feel, because Still was right in his two grand principles of disease and its therapy, that therefore, he should not have been wrong in anything he said about the body and its work, in health and disease. . . . If Dr. Still had been right in all

his theories he would not have been human, not worthy of human admiration." (p. 32)

Now comes the relation of osteopathy to the science of medicine in general. Osteopathy is not a branch of medicine, as dentistry is, since it deals with the entire field of health and disease, and not with an isolated portion of it. It is not a closely related field. Compared with the other schools, osteopathy is a different manifestation of the science of medicine. When looked at from the osteopathic aspect, medicine includes anatomy and pathology and surgery and obstetrics and hygiene and sanitation, just as it does when seen from the angle of the so-called "old school."

Objection arises here. It is stated that we should call osteopathy "scientific therapeutics," instead of "the science of medicine." But medicine is "the art and science dealing with the prevention, cure or alleviation of disease,"[2] whereas therapeutics is only "that part of medical science which treats of the discovery and application of remedies for diseases."[2] Osteopathy is more than a therapy. It includes preventive medicine—the positive preservation of health.

IN WHAT IS OSTEOPATHY DIFFERENT?

When we look at the science of medicine from one angle, we may see a system more worthwhile than the one seen from another angle. This may be because the one is based on facts which are more fundamental, or on a larger assortment of facts, or on facts with a less intermingling of error than the other. Or it may even be because its hypotheses, though based on facts accepted by both, are more nearly true.

What are the differences between the two schools under consideration? Often we are inclined to say that one emphasizes physical, and the other chemical means or results. The difference, however, is rather that the older school depends upon things put into the body; the newer, upon things already naturally present in the individual body. The older attempts to influence physiological activities directly; the newer attempts to correct or remove mechanical or other interferences with the physiological functions, in the belief that they will then normalize themselves.

We shall say, then, that the medicine of the drug schools is a system of practice founded on hypotheses based to an excessive degree upon the germ theory of disease. In therapy, it depends largely upon putting into the body chemicals of mineral, plant or animal origin; or upon introducing germs or their products for the purpose of combatting infection.

Turning to osteopathy we find two underlying principles. One is the ability inherent in the living body to develop natural immunity; it includes the abounding, positive, constructive forces natural to that body. The other principle is the necessity for structural integrity in order that the first may operate.

Thus we see why it is so often said that one school is chemical and the other physical. The processes emphasized by the drug schools are predominantly chemical, even when they are bacteriological or otherwise biological. Osteopathy, on the other hand emphasizes physical factors as basically influencing the chemistry which the other school considers ultimate. But as just now shown, the difference between the medicine of the drug schools and osteopathy is not so much a question of chemistry and of physics as it is of the recognition of the self-sufficiency of the living body.

CONTRASTING SCIENTIFIC ATTITUDES OF DOCTORS

With these fundamental comparisons in mind, we may proceed to study the scientific attitude (or its lack) in the proponents, respectively, of drug medicine and of osteopathy; going on to the bases of the two systems in provable facts, to the application of those facts in therapy and to our course of action regarding professional and public education and legislation, as dictated by these things.

As to scientific attitudes, we observe that the adherents of the drug schools of medicine like to speak of it somewhat arrogantly as "scientific medicine," by which term they undertake to set it apart from and immeasurably above all other systems.

These spokesmen of what they call "scientific medicine" forget that "to attain sound knowledge, one must be prepared to analyze reality in many different ways, to make a special and thorough study of every facet of it."[4]

To judge of the scientific attitude of the founder of osteopathy, in contrast, let us remember that "the scientifically trained man is rather slow in reaching conclusions because he is constantly aware of many causes of error and fears to fall into them."[4] Thus it was nearly twenty years after Andrew Taylor Still began a conscientious search for the solution of his problems in the 1850's before he promulgated osteopathy in 1874. The two fundamental concepts on which osteopathy was announced to the world fifty-five years ago, were the natural immunity of the body, and the necessity for structural integrity to make that immunity effective and dependable. On these things it rests today.

THERE CAN BE NO COMPLETE SCIENCE

What, then, of the respective bases of the two systems in provable facts? We have only to read the books of leading observers in the drug schools of medicine to learn how far short, in practical application, their knowledge falls. They freely admit fundamental lacks in information regarding infection and immunity.[5] They show the narrow limitations of vaccine and serum therapy.[6] They tell us that chemotherapy is built on empiricism and that it is sharply circumscribed.[7] As to the simple administration of drug remedies by mouth, of course that has no such place in therapy as it formerly held.

Thus it is easy to understand why it is so commonly said that medicine is not a science but an art. Yet a moment's thought will show how superficial that statement is, for it is hard to conceive of an art, no matter how simple and elemental, which does not have its corresponding or underlying science—faulty though it may be.

Should we then say, as it so often is said, that osteopathy is a complete science of health and healing? In taking that attitude, are we any less offensive than the spokesmen of the "old school" who prate of their "scientific medicine"? Of course what we mean is that osteopathy is as complete, as worthy of consideration, as truly scientific, as is

drug medicine—and even more so.

We are convinced that in diagnosis, when we take our own system of tactile and of visual examination and add to it the physical and chemical methods which are the common property of all schools, our study of a given case is superior to any other yet evolved. We are confident that our theories of etiology, and of treatment based thereon, are likewise broader than any others known, and that they more nearly satisfy the requirements of an effective therapy.

As to osteopathy being a "complete science," we must remember that "however skillful, our logical constructions are bound to remain incomplete, imperfect, and immature, because of the very incompleteness, imperfection and immaturity of our general knowledge. As we advance, new logical constructions will necessarily supersede the previous ones. Each of these constructions is useful, but only for a time, after which it becomes harmful. It might be compared to the shell of a crustacean: it allows the safe growth of a body until a certain size has been reached when (if the body is still growing) there is no alternative to its rejection, but death."[4]

This does not mean that we must leave behind Dr. Still's fundamentals of natural immunity and of the importance of structural integrity, any more than we will grow away from the fact that night follows day. But the applications of the fundamental facts must evolve.

WORLD OF SCIENCE RIPE FOR OSTEOPATHY

This is not all there is to the problem of the relation of osteopathy to the science of medicine. It is not enough to say that it is merely a different facet of the great structure, and we will find it good at this point to change the metaphor once or twice. Let us compare science in general to an army. One part moves forward and then holds its ground while another sector moves up to an equally advanced position, or even farther. But the long line must be maintained as a fairly uniform front.

Or, to shift the metaphor again, a newly found fact may take its place at once in the great structure of science or, because no place is yet ready for it, it may be forgotten. If forgotten, it must be found again, because the time will come when its place in the edifice is ready, and demands its presence. If a fact be found and developed, and those who have it attempt to keep it for themselves, then as the various other groups carry on, they will find and appropriate this fact, because the building cannot go on without it.

The time has come. The world is ready. If we ourselves can envision osteopathy as it is, we will rouse ourselves and quickly and unmistakably put it in its place in science even as we have already established it as a practical therapy. If we do not place osteopathy in the scientific structure and correlate it with other known facts, then others will find it, will place it, and will take the credit—even as they are in the process of doing today.

A few paragraphs back, we undertook to show the weakness of the application of the knowledge of bacteriology, of infection and immunity, and of chemotherapy insofar as they have been appropriated by the self-styled apostles of "scientific medicine." We even went so far as to assume that we, as doctors of osteopathy, have something better to offer. We must now ask ourselves whether the science of osteopathy is as good as it can be and should be at this stage of the world's history. If we do not make and keep osteopathy at the highest possible standard, then we are untrue to the Old Doctor's memory and false to our obligations to humanity. Moreover, only as we keep osteopathy the best that it can be, only as we maintain it as the most efficient and complete system of health and healing that it is possible to make it, do we have any excuse for being, or any hope for survival.

A SCIENCE FOUNDED ON IMMUNITY, ADJUSTMENT

It may be necessary, then, to go back to the definition of osteopathy. It was said that there are two underlying principles in osteopathy: (1) the chemical immunity of the living body and (2) the necessity for its mechanical integrity.

To go somewhat more into detail, it may be said that osteopathy is a concept based on mechanical principles, calculated to help the body in its efforts to maintain or to reestablish physiological equilibriums, especially when its normal action has been disturbed by mechanical lesions or after disease in any of its forms has invaded the body. It is an application of the biological principle of tropisms to an actual therapy. It is a general method of altering the chemisms of the body by altering the physical condition of the body. Based on this foundation, osteopathy comprises whatever is proved true in the science of medicine, and it is in process of development, as any living science must be.

Immediately it is said that this makes osteopathy eclectic and causes it to lose its identity as a school of healing. And we are assured that "electicism under stress always 'takes a dive.' It always has; it always will. It is negative. It sounds good, but it is not positive in direction. Osteopathy *is* positive in direction."[8]

Perhaps there will always be medical sects, but if osteopathy is what we believe it is, then it should not forever remain a sect. If osteopathy does succeed to the predominant place now held by "drug" medicine, it will be precisely because that older school (as older schools have always done) refused to recognize and accept the truth wherever found and proved. The easiest thing we can do will be to take a similar course—the human nature course—the natural course—the course which leads inevitably to ossification and death. The hard thing to do—the vital thing—the supremely necessary thing for the life of osteopathy—is to accept the truths of the science of medicine no matter whence they come or whither they lead.

Many will not agree with these definitions or these conclusions. Lane[3] said:

> As long as the osteopath uses his hands in his therapy, he may be called a pure osteopath. The very moment he adopts any other procedure whatever he is no longer using osteopathy. . . . We need not exclude the use of rational methods of hygiene or diet, nor indeed any other scientific regimen that would back up pure osteopathic treatment. But the fact of the matter is that many osteopaths extend their definition too far. . . . To say that any method which cures disease or which assists Nature in recoveries or reactions against disease is osteopathic is not at all true. (p. 39)

But the articles of incorporation of the very first school of osteopathy gave a wide scope to the science built upon the foundation of manual adjustment: "The purpose and object of this association shall be to improve our systems of surgery, midwifery and treatment of general diseases . . . the adjustment of the bones is the leading feature of this school." This purpose was good in 1874. It was good in 1892. As a perpetual objective it is a vital necessity.

The science of medicine has for its province the prevention and alleviation of suffering and disease. Whether we look at it from the angle of the drug schools or from the osteopathic angle, it includes anatomy and physiology, it includes surgery and obstetrics, it includes bacteriology and immunity and it includes therapeutics. If somebody else found certain of the facts of osteopathy first, that should not prejudice us against accepting them. If someone finds them after we did, we should be gratified rather than resentful. If another steals the credit, then the fault is ours for not having established priority. Thus we are reminded again that if we can envision osteopathy as it is, we will take steps to place it quickly and unmistakably on the scientific map. How can we put it there? By being thoroughly scientific in our foundations, our thinking, our contacts, and our application of osteopathy in practice. These considerations enter into our activities in regard to professional education, public education, and legislation. The question of public education is too extensive to enter into here.

SCIENTIFIC FOUNDATIONS IN MEDICAL EDUCATION

The men responsible for the place of osteopathy in the scientific world must have broad and deep scientific foundations. It is sometimes said that a man with an extensive college course in science will make no better osteopathic physician than one with only a standard high school education. Perhaps those who say this have reference largely to mechanical skill. Theoretically, at least, it seems obvious that a man with a thorough grounding in general science will more readily and more completely understand the principles of osteopathy. If he does that, he will have stronger faith in osteopathy and will be less liable to be led astray by ill-founded and unscientific error.

Extreme care is necessary, however, that things which are ideally desirable shall not blind us to the limits of what is practically possible. When the doctors of the drug schools abandoned the apprentice method as a means of teaching medicine, they sensed "the need of a preliminary training of the mind of the pupil in pure science, even in physics and chemistry; that is to say, before introduction into his professional studies.[9]" The question as to how much this idea may have been influenced by the desire to set standards so high as to cut down the number of physicians and thus restrict competition, need not concern us here. The fact remains that the process has been carried to the point where one cannot enter a recognized school of drug medicine without two years of preliminary college work in science.

The theoretical advantages of such scientific training would not seem to be open to argument. But there are also formidable disadvantages when it comes to requiring every practitioner to have it. So far as the physician is concerned, the lengthening of the course as it has been done is recognized by outstanding men in the drug profession itself, as having placed a medical education outside the reach of most students. Not only is the financial price prohibitive, but the cost in actual years of life is also great. As for the public, these costs must inevitably be passed on to it, making the price of medical service out of reason.

Furthermore, education of this extreme type, at least as it has worked out in the experience of the drug schools, seems to tend to the development of the specialist type of mind and of practice with its well known drawbacks to the public. At this point it must be recalled again that the science of medicine has for its province the prevention or alleviation of suffering and disease. There may be pure sciences, cultivated for the sake of science, but the science of medicine has little cause for being, except as it is translated into an art—into the practice of medicine. Years of experience seem to have proved that the practice phase has suffered much from the undue crowding of the science phase as medical educators have applied it.

The practice of medicine is largely, as it always has been, empiric. Harvey Cushing [10] says of medical education:

> We have gained much for the science, but have lost much for practice by the course we are following. . . . I look forward to a day when suitable representatives of the clinical departments will be delegated to correlate the teaching in the science courses so that their bearing on what is to come may be constantly kept in mind. (p. 7)

Perhaps it should be said that the courses in pre-medical science need more than mere correlation. The applications of physics which the doctor-to-be gets, are usually the same as given to the embryo engineer, despite their very different needs. The chemistry he gets, usually wastes his time in considering matters of industrial interest to the neglect of the special material which he will so vitally need to understand the phenomena of biological reactions. Without complete reorganization in selection of subject matter, the orthodox courses in chemistry and physics may easily become encumbrances rather than aids to the physician.

And even apart from those things, one cannot escape the feeling, when looking over the practitioners of drug medicine, that such premedical scientific training as they have received, has failed of its real purpose, for they have not absorbed the scientific spirit. They do not investigate for themselves, nor do they demand nor know how to evaluate proof. They still accept without qualification or question the unfounded and even contradictory statements about their competitors, which they see in books and magazines or hear from the lecture platform.

As Crookshank[11] has said:

> The colleges wrongly place greater emphasis upon the mere acquisition of scientific knowledge than upon the development of that intelligence by which further knowledge can afterwards be acquired . . . in science, no systematic knowledge is sufficient by itself; it must lead up and point to first principles. In the medical schools no attempt is now made to develop intelligence; and the advance to first principles is consistently discouraged.

So, while we must not overlook the value of a good scientific foundation for our professional education, yet in the practical application of our educational plans we should learn from the results shown by those who have pioneered in that field. If we are sure that a scientific foundation is as desirable as theoretically it seems to be, and if it can be made practically possible to require it, then such science course as is demanded should do two things: Inculcate in students the scientific spirit; and have a real application to health and healing.

HOW SECURE LEGISLATIVE JUSTICE

So much for professional education. Then what about legislation? We must recognize, and educate the world to recognize, what osteopathy is. We must know, and make others know, that the practical application of the art of osteopathy is even more trustworthy and more efficacious than the application of the art of drug medicine. Then we can stand before legislators and look them in the eyes, and have a chance of convincing them that we are entitled to full and adequate legislative recognition.

The great question need not be whether we have aped any other school, but rather whether we have solved the problems of scientific medicine from our own standpoint, in keeping with the principles of natural immunity and structural integrity, and to the best interests of the people for whose sake the science of medicine exists.

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Beyond Technic in Osteopathy

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A symposium such as this one may easily be conceived to spring from the same motive which prompts a traveller to seek a point of vantage for the survey of the country through which his course has been routed. In this contribution the purpose is to focus attention upon a subject which does not lend itself easily to discussion, but this must not be construed as claim for premier position among true fundamentals for it.

We shall raise the question of fulfilment of responsibility toward the art and craftsmanship which stand clearly as sine qua non of professional progress for a school with a conspicuous manipulative treatment. At the present the balance of scholarly attention is being directed toward those matters of common interest to all schools of medicine. It is small wonder that this is so when we consider the rapid advance of pure science and the tremendous leap which has brought osteopathy up to its present scientific status from unoriented first movements a few decades ago with a background of the empirical medicine of the frontier.

It takes but a pause for a backward glance to furnish an understanding of lack of balance or inadequate development of that art which is distinctively characteristic of osteopathy. Quite probably a temporary deflection here has been unavoidable and will in the long run be seen to have been advantageous. An immature profession could hardly have done otherwise, and even the most sanguine must recognize the difficulties to be encountered in any study which leads into the realm of art. In the alternate development of background and motif, however, it is motif alone which justifies the work. If the attainment of full maturity hangs in the balance, if our craftsmanship is insufficient or unworthy, then we face a question of progress, an unavoidable problem.

Our undergraduate studies mechanics and technic and is examined upon this groundwork. The dictionary defines Mechanics as "applied mathematics treating of the action of forces on bodies"; and Technic as "the commonly used form in art." This is scaffolding. Beyond lies the realm of art, even osteopathic art. Tolstoy states the difference inimitably in "What Is Art," with a story of the artist Bruloff and his pupil:

> Once when correcting a pupil's study, Bruloff just touched it in a few places and the poor dead study immediately became animated. "Why, you only touched it a wee bit and it is quite another thing," said one of the pupils. "Art begins where the wee bit begins," replied Bruloff, indicating by these words just what is most characteristic of art. . . .
>
> Is is the same in all arts: a wee bit lighter, a wee bit darker, a wee bit higher or lower, a wee bit to the right or the left—in painting; a wee bit weaker or stronger in intonation, or a wee bit sooner or later—in dramatic art. . . . No instruction can make a dancer catch just the tact of the music, or a singer or a fiddler take just the infinitely minute center of his note, or a sketcher draw of all possible lines the only right ones, or a poet find the only meet arrangement of the only suitable words. All this is found only by feeling. And therefore schools may teach something resembling art but not art itself. The teaching of the schools stops where the wee bit begins, consequently where art begins.

Clearly the transition from mechanic or technician to craftsman or artist will not come to pass immediately. If the student has caught the vision and carries away with him into practice earnest aspiration, he has done well. In the light of a constantly changing personnel, it would be interesting to question who of the drifters had ever achieved osteopathic art. Also, impressed as we are with the physical breakdown and professional loss, inquiry into degree of development of craftsmanship among the short-lived would be practical. We cannot claim anything like efficiency in the utilization of our professional potential. That is an established fact at present.

Almost unwittingly we find ourselves the custodians of a manipulative art which is very old in racial history, investigation of the traditions of which would seem profitable in an effort to evaluate our own work. Whether or not the practice of a manipulative healing art preceded theorems in the origination of osteopathy is but a matter of interest. It is fair to suspect that in the isolation of pioneer

living it would come easy to meet crises with the recapitulation of forgotten racial experience; it would be possible even that there was rather general familiarity with treatment on the order of that still extant among the European peasants. Nor would such presupposition in anyway disparage Dr. Still's genius in evolving the mechanical theory of disease causation.

The manipulative treatment which was art alone is not a thing to be passed over lightly. Its presence in unrelated countries points to a common source of traditions far back in racial experience, a folklore inheritance passed down through generations along with superstitions about sickness and information as to the use of herbs and potions. Medical care, poor as it was when it was altogether empirical, was available only in the more populous centers. The cost of bringing a physician out from the city was prohibitive for the poor peasant, and the difficulties attendant upon the trip were such as to render all country dwellers largely dependent upon traditional methods—often "until death was on the tongue."

As to the quality of this treatment it is difficult for us to appreciate its excellence. The period from the revival of learning to the present machine age was characterized by craftsmanship, the refinement of which is but partially within our comprehension. Thus there was available for such exceptional application as treatment of the sick a well developed coördination of brain and hand which would guarantee exactness of movement and delicacy of touch.

A writer lamenting the inferior quality of present day craftsmanship says, "Modern craftsmanship is the craftsmanship of the machine. Those deadly pistons and hammers have got into our very brains." A machine age is a perfect setting for the development and popularization of a mechanical concept of disease. On the other hand, dependence for man power in the enterprise upon a generation born and bred in the same machine age materially increases the problem of the development of craftsmanship. Not only does the machine mind fail to get beyond mechanics and technic but is unable intellectually to grasp the reality of a realm beyond the first "wee bit."

It is true that Dr. Still talked of man as a machine but he continually gave evidence of an overwhelming consciousness of the inadequacy of mechanical terms in the description of man. It was no mere accident that he referred so frequently to the body as the handiwork of the Divine Architect. In attitude of mind he was near of kin to the architect or artist intrusted with the restoration of a masterpiece. Pistons and hammers never dominated the brain of Andrew Taylor Still.

Let us, then, consider briefly the folk-ways with which we have so much in common. Scientific foundation and basic studies separate us from traditional art, but it is good for us to place ourselves beside those who practiced a manipulative art before the scientific era had dawned. From time to time stories have been presented in this and other publications and we shall here cite but a few instances:

The development of this treatment both in Germany and Austria has been carried so far as to furnish examples of a method in which knees of the operator are in the patient's back, patient's hands clasped behind the neck. Spinal treatment thus given is the one with which the osteopathic student becomes familiar early in this association with higher classmen who wish to show off. Such treatment demonstrated by a middle-aged American born woman of German extraction was particularly excellent in execution; which was probably to be explained by general interest in the arts, and craftsman skill.

From Czechoslovakia we learn of a test devised for the examination of an infant. If the child was fretful without evident cause the mother undertook to bring into juxtaposition the elbow of one side and the knee of the opposite side. If this seemed to produce pain a woman of the village came to administer manipulative treatment.

The American farmer, who liked to lie face downward on the floor and have an unshod child walk on his back, had left his native Alsace in boyhood, but this tradition had been brought over to the new country.

Buchan in a text, Domestic Medicine, written just one hundred years before the declaration of osteopathy (1774), describes methods then current among the laity in Great Britain. Under the caption Dislocation of the Jaw, we read:

The peasants in some parts of the country have a peculiar method of performing this operation. One of them puts a handkerchief under the patient's chin, then turning his back to that of the patient pulls him up by the chin so as to suspend him from the ground. This method often succeeds but we think it is a dangerous one.

And this under Dislocation of the Neck:

This partial dislocation may be reduced by almost anyone who has resolution enough to attempt it. The unhappy person should be laid on his back on the ground and the operator must place himself behind him so as to be able to lay hold of his head with both hands, while he makes resistance by placing his knees against the patient's shoulders. In this posture he must pull the patient's head with considerable force, gently twisting it at the same time till he perceives that the joint is replaced, which may be known from the noise that the bones generally make going in. This is one of those operations which it is more easy to perform than to describe. I have known instances of its being happily performed even by women, and often by men of no medical education.

Under Dislocation of the Ribs:

When a rib is dislocated either upwards or downwards, in order to replace it the patient should be laid upon his belly upon a table and the operator must endeavor to push the head of the rib into place. Should this method not succeed, the arm of the disordered side may be suspended over a gate or ladder and while the ribs are thus stretched asunder the heads of such as are out of place may be thrust into their former situation. For those dislocations wherein the heads of the ribs are forced inwards almost the only thing that can be done is to lay the patient over a calk or some gibbous body.

Man in his forward march has been forced to do a good deal of experimenting in meeting the emergencies of life and in grappling with the problem of disease in his body. Only of late and with the advent of scientific medicine has he shown inclination to relinquish the field so completely to the specialist and the expert. The boldness in handling the mechanism as just set forth is rather startling, but those were days of hardihood. The undergraduate, puffed up by a little knowledge, will do well to recall when he "cracks" a neck that we have written evidence that this had been done "often by men of no medical education," at least a century before osteopathy had been instituted.

The public favor physiotherapy and the unshackled minds are speculating upon the social significance of osteopathy. But they rightly point out the extremes of skill, the artisan and the artist,

and ask for a hallmark to guarantee quality if we would become their co-laborers.

St. Paul displayed shrewd understanding of organization work when he wrote to the Corinthians of the tempering of the human body together for common good—"many members and one body"—reminding them thus of the importance of founding a church at Corinth which should provide for individual development along the lines of native endowment. Osteopathy presents opportunity for the exercise of many faculties and varied talents. There must be constant branching out, each wing calling for leadership.

The next step toward a higher plane of craftsmanship is a specialization in the art of osteopathy and general acceptance of the fundamental nature of such a movement. With the progressive victory over the conservative in the historic conflict our aristocracy came to be based on scientific pre-eminence. It was natural that this should be registered in a tendency toward specialization in those branches requisite for the new regime, but only shortsightedness permitted it at the same time to militate against the development of our distinctive side. We have not overvalued scientific studies; we have simply failed to acknowledge art as the counterpart of science in the development of a school of medicine characterized by the therapeutic application of manipulation.

As the first step, then, in the advance we would advise the development of a consultant group—a guild of master craftsmen—a body of scholarly people whose specialized superstructure rests upon the same substantial groundwork in the scientific fundamentals as prevails elsewhere and whose relation to the general practitioner is ruled by that ethical consideration which always binds the specialist. In the training for leadership Plato, having selected the choicest youths, would train them carefully over a long period and then return them to the world to have them gain experience and be tried in all manner of ways. Thus he would have them occupied until the age of fifty when, "at last they would come to their consummation" and enter upon their true work as statesmen. Even a generation of go-getters are powerless to alter the method of acquiring seasoned leadership.

Preventive medicine is in its morning. The wide field of rehabilitation is steadily yielding us ground. Certain aspects of osteopathy are near of kin to surgery. There is work to be done at the bedside and away from it, in the consulting room and the laboratory. Experience of a wide nature is indispensable for comprehensive vision, any attempt to establish for family-physician service higher rank than equally excellent work in the office is just silly talk. It is a moral obligation to be guided by one's interest in the building of the superstructure, for the development of the whole is best guaranteed by encouraging individual growth to full stature.

A whole literature remains unmade. Art and technic, while not identical, are inseparable. Our genuine literature on this subject is scanty indeed. We are not organized as yet to produce it. A most helpful beginning would be the annual publication of one piece of literature devoted to art and technic. Let it be monograph or treatise, bulletin, yearbook, compilation; so long as it is dignified and in a form to be read and re-read, a valuable contribution painstakingly prepared, critically edited, and published without advertising and as a subject by itself; if advisable, a subscription issue.

Native ability registers in individual excellence in any art. The singer's voice is tested, the painter's sketch book examined. Our experts must some day take up the problem of aiding the beginner to achieve adequate self-appraisal. From the stolid type of patient to the mechanism with the hair trigger control is a full swing of the pendulum and only genius will meet with equal success in handling both types. Nervous tension or tissue toxicity bring complications and confusion. There is a good deal of pot luck in evidence and a situation calling for devoted study of the problem of manipulative dosage.

In the National Portrait Gallery in London in the section devoted to death masks, there is a case of casts of artists' hands, probably a study conceived by a sculptor struck with the individuality in hands. There are represented famous painters and sculptors principally, but notably in the group are the hands of Thomas Carlyle. Highly developed specialization in the use of the hand, fine coördination of brain and hand—surely this is an osteopathic desideratum and a matter worthy of emphasis.

The old training system for handicraft was by apprenticeship. They tell us that at the age of forty Stradivarius was still under a master. There is a film in existence which depicts Dr. Still's diagnostic hand in action. It gives a striking lesson and rebukes the thumbing process of the unskilled. Only experimentation would determine to what extent the action camera could be used to bring together master and novice or reveal the delicacy which characterizes skilled handling of the human mechanism. Not for expertness alone, but as a matter of life assurance the osteopathic operator must acquire bodily ease and rhythm in his work and movie studies might aid in self analysis.

There is that to capture the imagination in the idea of training in the fine arts for delicacy of osteopathic touch. Fancy the hand of a Grinling Gibbons upon a wood carving tool, or the strokes of the brush of a Corot! We read with interest of the accomplishments of Einstein as a musician and find back of Charles Darwin one grandfather who was a physician-poet, the other the founder of the House of Wedgewood. What more natural than that an orthopedist should express his ideals in sculpture, which we know to be true in some instances. Physicians and surgeons of New York City present an annual exhibition of the work of their profession in the fine arts.

In the last analysis we shall stand or fall by our art; for it is the medium through which we put our avowed principles to the test in practice. This paper has but aimed to direct general attention to the fact that the art of osteopathy is worthy of a consideration which has not yet been vouchsafed it by the profession at large.

Florence Court, Passaic and State St.

Individual Research

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Los Angeles

Literally, the word research means to again examine or investigate. It is more elaborately expressed as the repeated examination of one's sensory impressions, to the end that dependable information may be gathered. The impression, quite prevalent, that extensive laboratory equipment is necessary as a prerequisite to research effort does not necessarily hold for all kinds of investigations.

Laboratories well serve their function, particularly in the matter of the minutiæ, but there is the field of the gross which osteopathically has been but little more than preliminarily surveyed. This field is open to anyone who can and will qualify by the simple expedient of making and recording observations and perceptions.

Each member of the profession in active practice is in some degree a research worker. To each the door of opportunity is open for increased activity in the making and recording of observations and the deduction of conclusions from the accumulated data. The accuracy of the perceptions, the faithfulness with which they are recorded—first in the mind and memory and later in communicable form, determines the value of the research work done.

Every time we as individuals contact a patient, the way is open and the opportunity at hand for the making and recording of impressions. The tactile and muscle senses are the ones peculiarly susceptible to development in the province of the osteopathic physician. An osteopathic physician becomes proficient in the training of these special senses as applied to diagnostic and therapeutic problems only by adaptation and practice. There is no other way. Another can tell one how to feel but they can not tell what is felt. And, having sensed, that is, the sensory impression having been mentally received, psychologically the reaction is not complete; for every impression must conversely have expression. And in order for an impression to have expression other than physical, and become an idea, it must at least be verbalized. The thought may be mentally verbalized, orally verbalized, or written out as a word or words.

There is in the consciousness of the individual osteopathic physician lying dormant in the mentally verbalized state, or even in the orally verbalized state, much of scientific value that has come from observations in contact with patients while applying the classical osteopathic procedures in both diagnosis and therapy. This the profession, as a whole, might find exceedingly profitable to review if these observations found written and published verbalization.

By recording in permanent form what now is either but mentally or orally verbalized, data may be gathered from which analyses may be made and then followed by dependable conclusions.

Thinking is but the comparison of sensory impressions. The better the thinking the more sensory impressions are passed in review and compared, then accurate records of the results of the comparisons are, or may be, verbalized and recorded.

The world has progressed through the recorded experience of others. Osteopathy has progressed and will continue to do so through the recorded sensory impressions of those having experimental knowledge of osteopathy in its broadest application.

The greatest weakness of osteopathy is possibly the meager record that is all too often made of the impressions gained in contact with the individual patient, with subsequent classification of the findings made and recorded for the benefit of others.

To the end of hastening osteopathic progress, each osteopathic physician can choose some particular anatomical field or some special disease in which to make observations and by application to the evaluation of facts in that field, review what others have gathered, make original notations, and so become an authority. By authority is meant one who has accumulated a greater number of facts or sensory impressions than others in any given field from which to make comparisons and draw deductions.

If every osteopathic physician could become an authority in some particular phase of osteopathic service what a wonderful thing it would be for the profession and for the advancement of osteopathy toward the goal of becoming—the standard and accepted means of therapy.

610 Guaranty Bldg.

Individualism a Hindrance to Professional Development

DONALD M. LEWIS, D.O.
Little Rock, Ark.

Any one can within five minutes call to mind a half-dozen phrases useful for putting over a drive for coöperation. "In unity there is strength," "United we stand; divided we fall," and so on, would easily be remembered. Clever stories to illustrate the value of unity and organization are also numerous, such as that of the fellow who refused to stir up the hive of bees, because they were organized.

All of these have been used to induce osteopathic physicians to join the A.O.A. and the various divisional societies. There remain a considerable number who find no appeal in these arguments, and who have what seem to them reasonable excuses for attending to their own practice and rendering service to the public in their communities, and letting all the rest of the profession do the same.

These doctors do not consider that they are selfish in not joining movements to make osteopathy known. They struggled along as best they could until they built up paying practices, and they see no reason for helping make osteopathy known for the benefit of those who are not doing so well. They believe that their success is a boost for osteopathy and is of more material value in advertising osteopathy than is literature.

They are not affected by an appeal to help in legislative work, so that wider privileges may be given to newer graduates, or that the state may be kept open for future generations of osteopathic physicians. No law will be retroactive and deprive

them of the right to continue to practice as they have done. What difference does it make to them if a new law should make it more difficult for the new man to get a license? If some of the new men want to practice surgery and use the later methods, let them struggle to get the new law. Why should the satisfied one spend his money to help get a law which gives no privileges that he feels he wants?

If the busy osteopathic physician has spent time and worry to learn methods that make his practice more successful or his work easier in caring for certain conditions, why should he give his information away to others? Are not other practitioners of osteopathy in his town competitors for the available patients? If he has something good, why should he not capitalize it? How can there be anything wrong in exploiting fellow physicians by selling to them a course in his particular line of knowledge?

Why should the average intelligent, progressive osteopathic physician spend the time and money to attend conventions? What can he learn and see there that he has not already become familiar with through reading and experience? Is it not true that most of the demonstrations and lectures given on convention programs are disappointing in their character? One wonders how some of these fellows ever gained places on the program. If something really new is given at a convention, it will soon be described in print and any one who keeps posted can easily get what there is of value out of the printed article.

An organization founded upon high morals must first have those qualities laid in the character of its individual members. We attach to an organization the reputation and character of those who make it up. The public estimates osteopathy by its opinion of the individual osteopathic physician with whom it comes in contact. Therefore, the physician who makes a success of his practice, who prospers by means of his earning and by saving his money, and who does the most work in proportion to his talk, is doing his fair share to further professional development.

There is some real danger in too much organization and in standardization. Individuality is disappearing. People everywhere are commencing to look and act alike. European dress is fast being adopted by Oriental peoples. The women of Turkey are substituting modish hats for the time-honored veil. Through standardization, we are educating people from childhood to become as nearly alike as castings from the same mold.

But this standardization applies only to customs, styles, and things material. Individuality exists from birth. No two persons think exactly alike. People react differently to the same mental stimulus. The more highly developed the mind becomes, the less similarity there is in ideas on every subject. Only among the illiterate is it possible to standardize ideas. Bovine minds develop only the ideas of the herd.

There is no danger from standardization of ideas in an educated class of people. Individuality there is marked. Indeed there is danger that individuality may be so strong in a class interested in one common cause that it develop into Individualism, and that unity of action be destroyed—to the detriment of the cause.

Osteopathic medicine is a cause which several thousand educated, thinking persons are interested in developing. Without development any cause must deteriorate. The failure of professional development has its effect upon every individual represented by that profession. Yet professional development must be brought about by the effort of the individual.

The individual must bring about development. But Individualism is a hindrance to professional development.

Two heads are better than one—even when one is a wooden head. No two individuals see the same thing alike. It is easier to see the mote in the brother's eye, than to discover the beam in one's own. Nothing is new under the sun. Every new idea is but a slight variation of some older idea. When revolution takes the place of evolution, progress is set back until evolution can catch up with the time that was lost. Minor and very slight variations in individuals, either in organic beings or in abstract ideas, constitute evolution. The most revolutionary ideas are the result of the evolution of thought.

The professional progress of osteopathic medicine is best brought about by evolution. Revolutionary movements should be avoided. Individualism is conducive to revolution. All revolutions have been the result of the leadership of some dynamic individual.

When an osteopathic physician develops some idea and works upon his discovery without the influence of his fellows, he fails to receive constructive criticism and more than likely he deceives himself into the belief that he has something that is revolutionary. This leads him to be fired by the revolutionary idea and he so feeds that idea that when he finally does confide in others, he at once tries to fire them with revolutionary motives. There are always plenty of persons with the type of mind which is not accustomed to use critical examination of ideas before accepting them. Things revolutionary appeal to them. They assure the developer of the new idea that he has indeed discovered something that is to revolutionize osteopathic medical practice.

So this physician finds it flattering and also profitable to announce that he has made a great discovery, and he asks for a place on the program at conventions. His followers use their influence to further his claims and he comes before the profession with something that is often absurd, but many times spectacular, and for a time the new movement may take root and affect sufficient numbers in the profession as to materially influence the whole.

But sooner or later the revolution subsides. The light of critical examination in time discovers the barrenness of the idea. Meanwhile for those affected by the revolution, evolution has been retarded and it now requires time to get caught up.

There is no need to enumerate the many revolutionary movements that have taken effect upon osteopathic medicine. Not all of them originated within our ranks. Some were brought in from outside already developed, and easily introduced by the simple process of recognizing in them the osteopathic concept.

Until the scientific worker, the student hunting for truth, has developed an acute ability to criticise his own reasoning, he must be aided by the criticism of others. But osteopathic physicians have had little training in scientific criticism. They have no opportunity to do research work under the supervision of scientists during their professional training. They must do what research work they can while in private practice. The more individualistic the osteopathic physician may be the more likely he is to develop ideas. But also he is most likely to develop individualism. He must therefore take every precaution to develop the one and avoid the other.

Sir William Mackenzie showed in his own work and in his writings that the physician can do the most valuable research work in private practice. But this can be of value only when every idea and every observation is examined by the critical mind.

Dr. Edward A. Strecker told the entrance class at Jefferson Medical College some interesting things on this subject. He said:

Remember that medicine is more of an art than a science. Theories come and theories go. Sometimes they leave valuable residuals; often they are sunk without a trace. You will only escape scientific perdition by keeping the mind plastic and receptive. It is an unfortunate thing that so many men even in their student days develop certain theories and beliefs from which they cannot be moved, and therefore, they soon begin to look at everything, every set of symptoms, every new patient, through the same pair of spectacles. . . . Therefore it may be a fair injunction to say to you, never close your mind against new impressions and never adhere so rigidly to any theory that it dominates all your thinking. . . . When we think of research there is apt to be conjured up before our mental eyes a picture of costly temples of study far removed from everyday existence and into which none but the initiated may enter. . . . The sad thing is that usually no other type of research is recognized.

The word research means to examine or study with diligence and care. In short it means to look or search again. . . . Instead of merely committing a heart murmur to your auditory memory, listen to it again and again with your intellect as well as your ear, until you begin not only to hear it but also to understand and appreciate it; instead of hurriedly placing on paper a fragment of history which a patient may give you, view it carefully from as many angles as you can, ask questions and then you will get far-reaching impressions and astounding mental vistas, not only of the life history of that patient, but also of the potential histories of many patients.

It has been advocated that a good initiation into the clinical years of medicine would be the practice of having the student physician sit beside the patient for at least three hours, not asking questions nor even touching, but simply recording what can be observed and then looking again and again until everything visible to the naked eye has been noted. Some of the greatest diagnosticians were little more than highly trained and shrewd observers.

The professional progress of osteopathic medicine depends upon far more than the spectacular results sometimes obtained by an individual physician in some case that was supposedly hopeless; it depends upon more than the ability of its practitioners to gain a comfortable income; it depends upon more than the numbers who enter and remain in the profession; it depends upon more than the recognition given by the law-making bodies or the number of years of college training the student has before he enters our colleges. Professional progress depends upon the development of the skill and mental acuity of the greater percentage of osteopathic physicians in practice. The skill can only be developed through doing over and over again while the mind observes the actions. Mental acuity can be developed only through criticism of every conclusion made. The greater percentage of osteopathic physicians cannot progress unless there be a free interchange of ideas. Individualism hinders this interchange, prevents criticism of ideas, and is a hindrance to professional development.

Individualism can best be avoided when every individual joins the societies and organizations for the purpose of taking active part in them. Attendance at meetings and conventions is one of the most important preventatives against individualism.

It is not so much the new things one learns at conventions that makes them of value, as the things one unlearns when he comes in contact with his fellow practitioners and meets critical minds.

Conventions that are disappointing are likely to be those that have nothing revolutionary on the program. They but prove to the individualist that he needs to keep his mind receptive and plastic.

Active interest in osteopathic advertising and in legislation also prevent individualism by helping to get the satisfied successful doctor out of the habit of seeing everything through the same pair of eyes —his own.

We all need something to retard our tendency toward individualism and to get us away from the danger of adhering rigidly to some theory that will dominate all our thinking.

921 New Donaghey Bldg.

Possibilities in Professional Progress

HAROLD I. MAGOUN, A.B., D.O.
Scottsbluff, Nebr.

During a recent emergency there suddenly arose an urgent need for the minor police duty which Boy Scouts know so well how to perform. The scout executive was located and acquainted with the situation. He telephoned his scout masters who in turn put the machinery in motion to call all of their troups. Within thirty minutes fifty-five boys with their leaders had assembled in uniform at the desired location ready for action.

Probably all of you have seen or read about such response on the part of the Scout organization to a real or imaginary crisis. We want to touch on some of the possibilities for a ready response on your part and mine that professional progress may be more sure and rapid. We wish that every member of the profession might take to heart the work of the Bureau of Professional Development. This bureau should be the most important in the whole organization. It should be the stick that stirs the stagnant pool of professional selfishness, greed, malice and conceit, bringing to light hidden talent and magnanimous service for the betterment of osteopathy. It should be the charge of dynamite that shatters the dam of smug content and indifference. It should be the hammer that cracks the shell of backsliders and makes them self-starters. It should be the searchlight throwing into bold relief the reticent genius who nurses in secret a therapeutic pearl of great price. It should be the avenue by which hibernating self-satisfied souls are

brought out of the darkness and made to join in the march on the broad highway. It should be the clarion call that brings the clans flocking to the colors with courage and a will to fight for their convictions.

SHALL WE RESPOND LIKE THOROUGHBREDS?

C. R. House has said, "Organization is the art of getting men to respond like thoroughbreds. When you cluck to a thoroughbred he gives you all the speed and strength of heart and sinew he has in him. When you cluck to a jackass he kicks." We appreciate that you cannot legislate gumption or intestinal fortitude into any individual or organization, but we believe that most of our professional groups, local, state or national, are made up of men of high ideals—men who can appeal to the rest of us because of their breadth of vision, who are active, energetic, enthusiastic. Did we all but work as they work the rest would be easy. We believe there is much we all might do under their leadership. We are going to suggest a few things as we see them.

As Webster says, the greatest need today is for more and better osteopathic physicians. The only way students have ever been secured or ever will be is by the personal touch. The high school boys who come to us with athletic injuries, the likely young couples who are not yet settled in their life work, the promising youths and maidens whose lives have been touched through osteopathy. All that many of them need is a little encouragement. Just a personal word, a school catalog or their names on a school mailing list. Osteopathy has brought much to some of these lives and they will gladly be dedicated to this great cause where they are needed so much, if you and I but go a step farther.

BETTER DIAGNOSIS—MORE ENTHUSIASM

And better osteopathic physicians. There are many ways wherein we can better ourselves. I want to stress two only.

No one of us can ever hope to attain the skill in diagnosis and adjustment of body structure possessed by Dr. Still. We marvel at his seemingly uncanny knowledge of applied anatomy. We may study the text in a puzzling case but the average busy practitioner falls far short of his capabilities in professional progress because he does not really know with what structural relationships he is dealing. MacDonald of Boston makes the best and most practical suggestion of all to remedy this shortcoming. He says, "If the study of every problem in our therapy were preceded by a study and recording (on the history sheet) of the blood and nerve supply of the parts involved, together with related anatomy and reflex map; there would be many a thought, trial and accomplishment in osteopathic work which we now pass by unseeing."

You will be surprised at how little time it takes, especially if you know your anatomy. Even if you need quick reference to Kranz's "Physiological Chart of the Autonomic Nervous System" or Halladay's "Blood Supply of the Muscles" or Piersol for a nerve origin, it pays big dividends.

Fortunate the doctor who is naturally enthusiastic! It matters little how skilled some of us may be, our graveyard demeanors would drive away the court jester. Heaven help us, we of the long-faced mien, so serious in our work that we can't give our patients a cheery greeting, or so wrapped up in some finespun diagnostic problem that we fail to let go a bit on what osteopathy has done for similar cases, or so dignified with professional aloofness that we cannot rave about how much better Mrs. Jones is looking. We certainly received a jolt along this line one day. The saleslady patient who had long since relinquished matrimonial aspirations and birthdays greatly appreciated having the ache in her feet relieved and made several complimentary remarks about it; but when a friend, meeting her on the street and noting the disappearing wrinkles on her face, told her how young she was looking, then she did bubble over. The warmth of her appreciation for that might as well have left its glow in the doctor's heart. We need more of the art of salesmanship. We need more enthusiasm for osteopathy. We should give the little honest flatteries that please people about their improved looks and how much osteopathy can do or is doing for them. We must create a demand for our skill. As Merritt puts it "What we as osteopathic physicians need is more of the steam of enthusiasm. Set aside one day each week for Enthusiasm day and during that day do and say everything in an enthusiastic manner. In a little while you will find that you will add another such day and finally every day will be an Enthusiasm day for you."

ORGANIZE TO UTILIZE THOSE NOW ISOLATED

Now to pass on to the local, state and national organizations. The greatest problem in the whole profession today is the practitioner who isolates himself from his fellows. He may dwell in the wilderness or the mart of a great city but his profession knows him not, be it in the council chamber, the heat of legislative battle, the convention or the local meeting. Letters to him go unanswered. He cares not for the profession journals. He feels no obligation whatsoever towards the means of his livelihood and the source of his daily bread. It is an appalling fact that only about half the profession belongs to the association, be it local, state or national. There are many reasons why, but a way must be found to remedy the situation as much as possible. No association will ever be perfect because no one would even be at home there. Yet the fact remains that professional progress can be possible only in proportion to the percentage and zeal of those who are organized.

I believe the time is coming when our osteopathic territory will be covered like that of the Lions club or other service organizations with larger and smaller units with the presidents of the state and local groups in the roll of district and deputy district governors. Not that they will try to govern. The term is a misnomer. They will rather see that in so far as possible their territory is organized into small groups like our North Platte Valley Osteopathic association here in Nebraska and at least once a year lend inspiration by their presence at a meeting and by a friendly personal interest encourage membership and active participation by all. In a similar role the local presidents can accomplish much towards the upbuilding of a strong and all-embracing unit within their jurisdiction. There should be an active extension department of the

American Osteopathic Association to keep alive the enthusiasm for this work of local organization and membership-getting—a service unit which can give support to associations in need of outside stimulation with suggestion or visitation. Contests among such local organizers are always "pep" producers. State bulletins are indispensable. Yet the greatest factor of all is the kindly personal touch of those who have the cause of osteopathy at heart and who are willing to devote a little of their time and money thereto. It would involve no great sacrifice for anyone if properly distributed.

GET BIGGER AND BETTER PROGRAMS

A continued interest in association meetings must come from programs that are worth while. "Good speakers with specific technic and less bunk" expresses it about as concisely as possible. There are two general types of programs which may be followed: the usual special topics assigned and what we shall call Dunn's Question Box Method.

For the former we know of no better way of finding out what the members desire than the questionnaire, especially as applied to a yearly state program. Each individual then indicates what speakers or topics he most desires and in so far as possible the will of the majority is satisfied. The local association should pass on its good speakers to the state and the state to the national program, a matter which is largely being done through the Bureau of Professional Development. Local groups may exchange speakers where close enough, and a state-wide contest for the best subject presented from any local at the state meeting helps a good deal in this method or in any other. One rule should be absolute. Outside of direct quotation there should be no reading of papers. A really good talk is thus often ruined. One should be full enough of his subject to give it without leaning on the printed page.

DUNN'S QUESTION BOX METHOD

The other program plan which some prefer was originated by Dr. R. O. Dunn of Omaha, Nebraska, and is used by the Greater Omaha Osteopathic Association. It is essentially as follows and we are quoting the author in describing it.

1. The president of the associaion shall privately appoint one member each month as chairman for the next meeting.

2. Questions submitted shall concern diagnosis and treatment of difficult cases with a case history as complete as possible in each instance, methods of technic for correcting lesions involved, problems of office management such as fees and collections, proper methods of history taking and laboratory analysis and so on. The question as to why results were not forthcoming in a given case may be pertinent.

3. All questions shall be sent to the president to be dated, copied and numbered. The signed copies, without identifying marks, shall be turned over to the appointed chairman not less than two weeks prior to the next meeting in order that he may have sufficient time to study the questions and prepare his answers.

4. Following the chairman's dissertation the meeting shall be thrown open for a round table discussion.

Since the chairman is unknown and the questions unannounced an interest is created as well as a desire to attend. Self-confidence is developed in those who are backward in addressing such a meeting. Unsuspected talent may well be uncovered. Slovenliness in history taking is discouraged. In fact it seems an ideal solution for the program question in many ways and considerable of a "bracer" for clinical backsliders. It is to be hoped that more local associations will adopt the plan. Dr. Dunn is to be complimented for his contribution to professional development.

Whichever plan be followed there should be a concerted effort to preserve and pass on to others the best that is brought out in speakers or case records. That is one of the big contributions of the Bureau of Professional Development, which aims to serve as a clearing house for ideas and worth while addresses, not only professional but also to lay audiences. Osteopathy needs able speakers to plead its cause that it may progress the way it should.

LEARN LESSONS FROM THE MEDICS

Legislation is another most important field in which there must be concerted effort if progress is to be made at a satisfactory rate. In the February FORUM, under the title "Medical Politics," Dr. C. E. Abegglen brought out some very startling facts as to the tactics of the dominant school of medicine in securing and maintaining their position in Illinois. In case you missed it we will quote the gist of the method:

> A card index of every member of the state legislature is carefully compiled, giving his occupation, politics, name of political adviser, name of family physician, attitude towards the medical profession, previous legislative record and his church and lodge affiliations.
>
> Personal interviews are secured with legislators by medical lobbyists. Every possible advantage is taken of whatever influence the legislator's family physician may have with him. Special attention is given to organizing legislative committees of laymen in the legislator's home town for the purpose of bringing pressure to bear upon him to vote as the medical society wants him to vote.
>
> When a governor is elected the legislative committee promptly asks for an audience to enlist his cooperation in the interests of the medical society.
>
> Efforts are made to elect as many physicians as possible to the legislature who will sponsor whatever the medical society wants them to sponsor.
>
> Similar pressure to that brought upon legislators is brought upon newspapers to induce them to print whatever the medical society wants them to publish.
>
> In all the medical societies' activities particular emphasis is placed upon the importance of convincing the legislators and the public that whatever the medical society proposes is purely altruistic and not for the benefit of the medical profession.

We should certainly be foolish did we not fight fire with fire and, starting early, get a similar list of men in public office, see that they receive the OSTEOPATHIC MAGAZINE and A. O. A. literature exposing medical publicity methods, find out their attitude and do our utmost to influence the unfriendly to allow us a square deal if legislation is pending. There is no use wasting postage to urge support of a bill a few days before it comes up. The result is already cut and dried by that time. Months are needed and organized pressure all along the line.

USE RADIO—EVEN IF IT DOES COST

The last possibility in professional progress that we wish to consider is the use of the radio.

Publicity should be pushed in every possible way, it is true, with active local and state chairmen to assist Dr. Hulburt in his splendid endeavors. The state bulletin is indispensable for news within the profession. Your personal message in a newsy fashion neatly typed and double-spaced is the best bet for news outside the profession, especially if you sweeten the editor with a little paid advertising occasionally on ethical subjects such as a clinic or flu prevention. Do not make the mistake of getting angry if he does not print all you submit.

But the influence of this is small beside what might be done over the radio. We have two methods in mind.

The first is that weekly or biweekly talk. Now most of us would make a horrible fizzle of it. Should we speak to an audience they might be polite enough to hear us through but when they are in the privacy of their own parlors and only the turn of the dial is necessary to relieve the boredom jazz will reign supreme. People don't want to be preached at through a vehicle of relaxation and amusement. Consequently any health series that would help our cause must meet the requirements of relaxation and amusing entertainment. The radio audience is the most fickle in the world and to hold his listeners the speaker must develop a radio personality. If he can do that and entertain his audience, then only can he successfully hang on a few gems of osteopathy. So roll the wit of Willard and the charm of Carpenter and the brilliance of Brigham into one, crash the studio gate and maybe you will succeed. It would be worth trying. The entertainment part of the program might well come from the student body of one of our colleges situated near a prominent studio, as in Chicago or Des Moines. Plenty of talent usually prevails. It would be worth trying, indeed.

Over and beyond this we believe there is an opportunity for a massed barrage that would sweep into insignificance the snipping described above, if—

Recently the Lions International put on a nation-wide hook-up drive for funds in its campaign for the blind. The radio broadcast cost the association something over twelve thousand dollars. This money was raised through special assessment of twenty-five cents on each member in the club. A program took up most of the time, having been widely advertised and a short plea for funds followed. Of the donations received let us consider two only. One gift of one hundred thousand dollars came direct from a generous soul who was listening in. Another donation of one dollar was sent by an old widowed lady who "thought someone else needed the money worse" than she.

Do we need funds for the Research Institute? Yes. Does the Osteopathic Foundation need assistance? Yes. Will the millions of listeners each night be as well informed as they should be about our great science? No. We have Galli Curci. We have Thomas Skeyhill. We have Clarence DeMar. We have dozens and scores of world figures who are grateful for what osteopathy has done and are willing to tell the world about it, if—. It might be at one of the conventions or in the winter when radio reception is best, maybe even on the anniversary of Dr. Still's death. A wonderful program could be arranged with a nation-wide hook-up and untold good for our cause, if— Suppose it did cost twelve thousand dollars. Wouldn't it be worth two dollars to you? If six thousand of us gave the price of one little treatment the money would be available.

What a vast stride in professional progress! How far we all might go individually and collectively could we but do some of these things. "There are some things worth while to a greater extent than the mere accumulation of money and I believe that this is one of them." The man who said that has given outright to osteopathy not two dollars but considerably over five hundred thousand. What will you do?

SUMMARY

Among the possibilities in professional progress we find: (a) more and better osteopathic physicians by means of the personal touch in student recruiting; anatomical along with clinical diagnoses; the enthusiastic attitude of mind in practice and efforts to round up professional stragglers.

(b) A better organization from the ground up by covering all areas possible with local or district groups to encourage membership in local, state and national associations; insuring worthwhile programs by questionnaires as to speakers desired or by Dunn's "Question Box Method."

(c) More effectively placing osteopathy before the public by aggressive legislative methods, cultivating the field well in advance and in a systematic manner as do our medical friends; free use of radio broadcasts as a regular entertainment feature or a nation-wide hook-up to stress some great need of osteopathy.

16-17 Weller Bldg.

Are Your Dues Paid Up?

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No progressive osteopathic physician can afford to miss one issue of The Journal, which steadily grows in educative value

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AN EDITORIAL-CASE REPORT

In the August issue the writer, in an editorial, mentioned venturing upon an unusual form of case report to be called an Editorial-Case Report. This report isn't complete and dressed up in the usual form for record, but rather, it is arranged to illustrate the natural direction of thought which we take in approaching extreme problems of a certain kind. In order to keep the discussion point clear, many items of ordinary record are left out and only those included which bear directly on the point made.

The work here described is valuable, in the writer's opinion, because both the general situation and the separate items are well known to every doctor and all are equipped to do as well or better than has been recorded here.

The patient, a widow twenty years, is 59 years old, 5 feet, 4 inches tall and weighs 120 pounds. There are two children aged 31 and 34 years. There is an ordinary history save for more than ordinary nerve strain for twenty years and periods of functional high blood pressure, and during the last ten years a true progressive arteriosclerosis with much less than the usual accompanying hard kidney effects apparent.

A very mild hemiplegia four years ago, from which a very good recovery was made and which was followed by a blood pressure change of 200 systolic—120 diastolic to 175 systolic—90 diastolic, occasionally as low as 160-80.

After an attack of influenza two years ago, the blood pressure rose again to 220 systolic—120 diastolic. A few weeks later at one a. m. o'clock the patient was stricken with bulbar palsy—a typical picture with no trace of the old hemiplegia appearing.

Bear in mind the character of this report and the purpose of making it. Here appears a situation in which the usually indicated osteopathic measures fail and in which no drug ordinarily considered may be used. The point is this: There is no drug measure left for safe use, but there is still room left for very effective osteopathic measures as the sequel will show.

The patient was seen at two a. m. She had been raised on pillows to a sitting position in bed. The pulse was 70, irregular and weak, with about one systolic impulse in six heavily accentuated. Her eyes were bulging; muscles of extraordinary respiration stood out in intense contraction. Respiration was labored and loudly audible with violent attempts to increase diaphragmatic excursion which was limited —in fact, almost nil. If it is possible to describe a breathing type as a *violent* Cheyne-Stokes', it was this type, for the breathing continued rhythmically, a violent period diminishing and recurring gradually.

The patient was conscious but speechless, her face was distorted to the right, tongue was thick and inert, hands clutched at chest, bed clothes, or anything brought within reach. What to do? Naturally the first attempt would be to relieve the tissue pressure between the maxillary angle and the transverse process of the atlas and to search for a chance to relieve the phrenitis. This attempt was followed by severe signs of distress, a slight convulsion, with eyes closed and breathing suspended for about three seconds, the patient showing intense fear of any suboccipital approach. Again: What to do?

It was apparent one could not continue the attempt to relieve the central mechanism—the respiratory center was heavily encroached upon by the effect of the palsy, but the diaphragm was apparently rigid. If one could make the diaphragm move and relieve the load on the intense respiratory impulse, the associated contraction in the neck might be relieved. In other words, the mechanism could not do its work. Why not have the doctor do it? So treatment was begun to lift the diaphragm carefully, synchronously with the breathing. This was done, ten to twenty lifts at about six to fifteen-minute intervals for three hours. Great relief followed; the violence subsided, but death was apparently imminent from exhaustion, general and respiratory center involvement.

An osteopathic consultant of note in our vicinity was called. He confirmed the diagnosis and the recorded situation and gave it as his opinion that death was imminent any time in one to three hours. Up to three p. m. that day, (fourteen hours duration), the diaphragm lifting was continued at increasing intervals until the patient was so relieved that once or twice a day for three days afterward was sufficient to maintain the gain. Swallowing liquids was possible on the second day. Breathing continued easy, except for slight difficulty at occasional short periods. Urine was passed. The rectal contraction, which appeared three hours after the attack, was released. Blood pressure dropped to systolic 190-diastolic 130. The patient continued to gain and has had two fairly comfortable years since. About fifty per cent of her speech is recovered and fifty per cent of the facial distortion persists. Of course a second attack and probably the last will come sooner or later, but the problem here described is not affected by that probability.

Here was a case where strychnine, caffeine, soda or any other stimulant was contra-indicated. Violence of the process and high blood pressure would not permit the use of a stimulant. A depressant or a narcotic was equally contra-indicated, for it is apparent to any one that the respiratory center would have eagerly accepted the opportunity to rest forever.

Here was a case where there was no chance for

a drug, and there was a chance for osteopathic procedure, and it worked. And this was osteopathic procedure—not just ordinary artificial respiration. Our special knowledge of reducing rib and vertebral motion does make it an expert osteopathic procedure, even though it is of the simplest character. So much the better.

If in this case where there was no chance for drugs, why not try osteopathic procedure even where *there is* a chance for drugs?

The big osteopathic lesson is this: If you cannot affect the center, you can at least attempt to do the work of the mechanism and take the load off the center, pending its chance to recover, which chance Nature always offers, if we work in harmony with her effort.

JOHN A. MACDONALD.

OSTEOPATHIC EDUCATION

Osteopathy is founded upon the basic sciences of physics, chemistry and biology. All living tissues and organs and the organism as a whole function in accordance with a definite plan. Physical principles no less than chemical and biological ones are exemplified. Architectural type of the body, its conformation and configuration, is the result of physiochemical expression. The pattern is definite and distinct. Order is essential and imperative. Integration of function follows absolute law — of order. A knowledge of these laws constitutes the science of osteopathy. An application of the same expresses its art. Both health and disease are bodily conditions which operate through the cause and effect system of these laws. Thus the character of the biological unit, containing the properties of growth, repair and recovery, subject to the interrelated physiochemical laws, is the indispensable groundwork of osteopathic science.

Elucidation of the interrelationship of the physiological mechanism to the chemism of tissue and organ is the essential objective of the osteopathic school. This demands a sound working knowledge of the biological sciences. For without an understanding of what constitutes health requirements the abnormalities of structure and function cannot be clearly interpreted.

Dr. Deason has ably presented the fact that osteopathic education is founded on biology. For it is evident that the living mechanism of structure and function, its physics and chemistry, operates in accordance with such principles. This viewpoint of the organic unit is all-important to an appreciation of osteopathic science and art.

Dr. Still repeatedly stressed the significance of the vital properties of the organism, the relationship of structure to function, the inherency of growth, repair and recovery, the natural chemical immunity, the influence of environmental forces, and the mechano-adjustment of tissues. In other words, health represents full and complete physical reactions and expressions. This gives an entirely new interpretation of biochemistry, the outstanding feature of which is interdependence of structure and chemism. Thus, a new concept of physiological physics was founded. Before the advent of the osteopathic school the structural mechanism was largely overlooked. Not only its minutiæ, but its commanding role. Medical science has accomplished much toward a better understanding of chemical values though the relationship to structure has been neglected.

Osteopathic education does not mean that various diagnostic measures are to be disregarded or even discounted. But osteopathic education does mean that all measures should be correlated with the physiomechanical findings and thus integrated into a distinctly more complete plan than has heretofore been possible. Basic laws when discovered and elucidated are simple ones. Much conflict of hypotheses is due to misunderstanding or lack of knowledge of physical and chemical correlation.

This is not implying that osteopathy's contribution to science is completed. Although it has made creditable progress during its period of development, there still remains much work to do toward a fuller application of the basic sciences to the osteopathic concept and to a more complete organization of clinical research.

Like all applied science osteopathic knowledge is constantly in the making, subject to added interpretation and rearrangement from new discoveries and from the character of individual make-up and vicissitudes of environment. Although certain principles are always indicated, definitely basic, there remains an ever constant change or variation in their application due to the various stages of disease history in a highly complex organism subject to action and reaction of manifold influences.

There still remains a vast field of physical or structural findings to investigate, analyze, interpret and finally correlate with chemism of tissue and organ. In no way is this more strikingly shown than by the fluctuating character of immunity. Individual immunity of the moment does not necessarily hold true for conditions of a later time period. Such a status is reflected by both the structure and chemism of the body. But the chemism and structure of the body are not two distinct and separate fields. The chemical and structural present two methods of approach in the solving of diagnostic and therapeutic problems. It is evident that the logical or scientific viewpoint of the clinical problem should depend upon obtaining all possible data and evaluating and correlating it.

A physiochemical vital mechanism cannot be satisfactorily or completely measured in terms of chemistry alone. The chemical does not function independently of the physical nor vice versa.

Interdependence of these two planes is a sine qua non. This within conditioning is what characterizes a vital organism. Strip the organism of the physical and what remains? Destroy the chemical and results would be the same. The physical medium is of equal importance to the chemical. But the physical medium or plane has not, by far, received the same searching analysis as the chemical. Particularly the relationship of physiological physics to chemism. Herein enters characteristic osteopathic science. Why it has been neglected is a long story of tradition.

In osteopathic education the biostructural thread runs through every subject of the curriculum just as certainly as the chemical thread. Both

are basic inherencies upon which growth and development depend. Both are subject to perversions or abnormalities. And when one is affected the other presents, pari passu, a counterpart of the same affliction. Inherent properties of repair and recovery emphasize how essential structural intactness is to health. Continuity of structure is basic to unification of function and to integration of the organism. There is no mystery, no illogicalness in this concept. Simply a rounded-out scientific viewpoint applicable to all tissues.

The same earnest attention and analysis is given to structural findings, within and without the whole body, as is given to the chemical. This is osteopathy. The weight of dominant authority has been along the line of the chemical (aside from surgery). But the weight of many brilliant results (in the face of a last resort) has been with the osteopathic contention.

But, as stated, osteopathic education is far from full development. It has not made its final contribution to science. The clinician constantly keeps before him the outstanding facts of individuality and change, no less of the physical than of the chemical. There is much basic work to be done in determining the innumerable intimate relationships of structure to chemism, and of many contingent structural and chemical links. Many of the early changes and signs are awaiting discovery, elucidation and systematization. That there is herein vast basic material which will write new chapters in physiologies is beyond question. It can't be otherwise for structural relationships contain both static and dynamic qualities, ever changing and fluctuating within certain coordinated biostructural and biochemical cycles. To interpret the findings is the real problem. Not to be misled by the magic of a chemical hypothesis without its counterpart of structural phenomena is a major consideration of osteopathic education. Much has been revealed by fifty years of osteopathic development. Probably a greater portion remains to be discovered, developed and organized. Surely a fruitful field for the scientist, clinician and student —a field that will contribute further additions and rearrangements and new interpretations to the values of anatomy, physiology and pathology, bridging many gaps and unifying the whole.

Osteopathic education is far removed from just academic interest, whose principles are deeply embedded in biology, physics and chemistry. It is both a science and art that comes directly home to the individual of health as well as to the afflicted. Founded on what constitute health principles—structural intactness, complete functional expression and inherency of vital properties—it recognizes that ill health is an abnormal condition of these values. To discover where and how the intactness is impaired can not be other than a most valuable and fundamental clue. And this requires no small amount of clinical experience, skill and judgment. This, the art, is the most difficult part of osteopathic education. But an art most fascinating for it is creative at every step of the clinical procedure, challenging initiative, for the characteristics of each individual problem are more or less distinctive. It does not constitute an appendage to a therapeutic armamentarium nor an imposition of an extraneous theory. It is an armamentarium itself, consistent with pathogenesis insofar as structural perversion enters the diagnostic and therapeutic equation. Even more, it represents a philosophy and science which plumbs the deeps of living tissue wherein order of structure is a prerequisite of vital functioning upon which inherency of growth and repair is dependent. The limits or lack of limits of this fundamental factor have not been fully solved. It will require much scientific clinical research to approach an outline of its complete and final value.

In order to fully understand the natural history of disease more facts of health conditions are demanded. Additional substantial progress is certain to be attained. For knowledge of structural intactness and functional unification of the whole organism, based on both inherency and environment, is necessarily fundamental to intelligent recognition of abnormal values and their causes. This is why a still greater knowledge of osteopathic anatomy and physiology is imperative. The osteopathic concept of structure and chemism is clinically consistent (and verifiable) from pathogenetic factors to diagnostic correlation and therapeutic application. Then the development of the tactual sense and the attainment of operative skill fulfill the applied art demand of the science. A more fascinating and practical life work for a student would be difficult to find.

Utilization of the osteopathic concept does no violence to established chemical facts. Although the interpretation of the relative value of the chemical facts may be changed, nevertheless they remain as fundamental requirements. The essential point is to obtain a true perspective of the whole process, both structural and chemical, remembering that chemical integrity and structural intactness are not and can not be separate and independent entities. The particular significance of osteopathic education arises from the vehicular role of the structural as established by the importance of physical freedom of nerve impulse and vascular channel. This is the basis of the solid ground of osteopathic education, applicable to every tissue and organ and to the body as a whole. Chemistry of function is herein dependent.

It is evident that normal expression of chemical values is dependent upon freedom of the structural whether it be chemism of nerve impulse, blood tissue or gland. It is equally evident that the structural is subject to the strains and stresses of environmental change. To locate, detect the character of the effect and normalize the same is an important part of practical osteopathic education. Naturally these conditions are expressive of individualistic characteristics which require minute search and comprehensive evaluation of all diagnostic measures. Thus scientific osteopathy presents a most enticing field embracing the fundamentals of biological knowledge and adaptable to the contingencies of scientific progress and development.

In osteopathic education and practice this concept is fundamental for the relationship of structure and function, of chemism and immunity and of readjustment and recovery express basic principles of the entire vital organism. In other words, it is consistent with the correlated fundamentals of

biochemism and structural requirements. Around this broad but distinct concept are grouped the fields of surgery, various specialties, hygiene and sanitation. Neglect of structural intactness leaves nature crippled to a greater or less degree whether it be primary or secondary, cause or effect, or a combined phenomenon.

CARL P. MCCONNELL.

THE NEXT STEP

Our research workers are helping us answer the question of the next step. The new books coming from them give a scientific basis for special study and stress of osteopathic principles, also a method for checking up on one's work. Most of the symposia for last year is another answer. The work fostered and emphasized by our Bureau of Professional Development is still another. The symposia that are already planned for THE JOURNAL the first part of this year will stress these same ideas. A letter from Dr. McConnell contains these suggestions for symposia or articles:

INTERPRETING THE OSTEOPATHIC LESION

(a) Biological Significance of the Lesion
(b) Anatomical and Physiological Values and Relationship
(c) The Way of Adjustment and Immunity
(d) Embryology the Key to Successful Interpretation
(e) Counterparts—Structural Mechanism and Chemical Activity

FINE ART OF TECHNIC

1. What Palpation Teaches
2. Skill Dependent on Coordination Between Brain and Hand
3. Technic vs. Operative Adjustment
4. Each Treatment Should Change the Clinical Picture
5. The Application of Force and the Time Elements
   a. Force Applied
   b. Length of Treatments
   c. Spacing of Treatments

These are all practical everyday suggestions and outlines that any physician could take into his daily practice and begin working out this very hour in some intelligent fashion, some with more success than others according to comprehensiveness of his vision and his art in applying it. Quoting Dr. McConnell further:

There is no doubt that we should keep pegging away month after month and year after year. Unquestionably many osteopathic values remain to be uncovered and correlated with the general picture.

We are on an absolutely solid basis with general science development. It is up to us to make good on broad and independent grounds. This is not only our duty and privilege but also our salvation.

Chemism of the body must be correlated osteopathically with its counterpart physics of the body. Right here is where so many misconstrue the concept. And as a consequence chase circles and will o' the wisps.

Much, very much, of the body structural physiological physics, has not even been analyzed, much less interpreted and applied in an exact and comprehensive way.

A scientific book is hardly off the press before some—or often many of its ideas are proved wrong or developed to new and broader meanings. It used to be that librarians who understood would say, "If a scientific book is ten years old we put it in the basement." Now we have shortened the period, with the always admitted exception of certain books that have the qualities of enduring literature. Truth must always be truth, and yet it is constantly revealing new vistas, new meanings, new values.

CORRELATING EMBRYOLOGY AND HISTOLOGY

There is far too little correlation of the various subjects in osteopathic and medical schools. The student who has little or no knowledge of these subjects other than what he has learned from his courses in biology and physiology finds it most difficult to grasp and correlate his information in such manner that it will be of actual value. Teachers, too, who have forgotten or perhaps never had the concept of correlated scientific information often make little attempt to help students in this way.

So often the professional student plows doggedly through his first and second year courses considering them of little actual value; and too often either because of textbook or teaching he is right. It is, then, a pleasure to find a book that makes a good attempt to correlate. In the preface of Lewis and Bremer's work on Histology* Dr. Bremer states frankly that he intends to depart from traditional writing—and he has. Here is a book in which the authors have planned and really accomplished a fair amount of correlation between embryology and histology, a thing which has always seemed very important. If only biology and physiology had been correlated with embryology in this histology they would have approached the osteopathic concept of health and disease. Some time someone will do this and will be greatly surprised at his accomplishment.

Medical writers, as we can plainly see from our reading of the newer books, are fast approaching the direct application of structural-functional relationships in health and disease. Not so many years from now they will be writing it and then, perhaps, will claim they always knew it.

This text on histology is good. Because of the many changes, new things added, and practical applications it is truly worth careful reading and study.

WILBORN J. DEASON.

*A TEXTBOOK OF HISTOLOGY. By Dr. Fredrick T. Lewis and Dr. J. L. Bremer. P. Blakiston's Son & Co., Philadelphia, Pa., 1929.

A CANADIAN DOCTOR ON PNEUMONIA

We often feel when reading a magazine that one article is perhaps worth the whole subscription. A similar feeling grips us as we read "Treatment of Pneumonia," by Dr. A. H. Gordon, M.D., McGill University, in *International Clinics*, vol. II, Thirty-Ninth series. We quote freely from it:

The history of the treatment of pneumonia is in retrospect a commentary upon the resistance of the human body . . . We may well be proud of our calling and at the same time not a little amazed that with the mortality of pneumonia almost constant from century to century, our forefathers, like ourselves, could take up the gauntlet that Fate threw down, and could with hope stand up against him over the prostrate body of each new victim. . . . In spite of the monotonous recurrence of twenty to thirty deaths per hundred sick, there was still hope left, and even enthusiasm, over each new form of treatment. . . . We begin to hope that *treatment* in pneumonia may sometime be changed for *cure* by the newer therapy.

But while we are perhaps in sight of the Promised Land,

we must not forget that we are still wandering in the wilderness, and for this day and time (may it soon pass) we must continue to care for and guide through a dangerous illness people sick of it, and that without any weapon in our hands against it which we can confidently trust. . . .

Kessel and Hyman report one group of cases, forty-one of whom had sterile blood cultures with a mortality of 22 per cent, and fifteen with positive cultures with a mortality of 66 per cent. . . . If there is one lesson more than another that nature teaches, it is that *rest* is the best medicine for infection. . . . When we think of those during the influenza epidemic of 1918 who got better in hovels without attention, and of those who were transported from the hovels and were nursed assiduously to their deaths in clean hospital beds we wonder, but we don't always learn. . . . I doubt if ever the removal of a patient with pneumonia in its middle or later stages is justified, except by the absolute impossibility of giving him *any* care where he is found. . . .

Nursing attentions such as bathing, changing of bed linen, taking of temperatures should never interfere with repose and should be kept at all times to the irreducible minimum. A bed sore is bad but a corpse is worse. . . . I once had pneumonia and when a pain in my side allowed it, I slept a troubled sleep and for my sins in the past had a nightmare of twelve medical students all asking me to take a deep breath while they lettered my chest with stethoscopes. It was a good lesson.

The world will owe a Nobel prize to the person who invents a bed-pan for the sick. The present contraption is an offense and an abomination, and an encounter with it cannot but leave a sick man sicker, and this raises the question of the routine use of purgatives in pneumonia. Why not give a sick man an emetic and a diuretic and a diaphoretic as well as a purgative? Are they not all relics of the antiphlogistic days of medicine?

Very little in the way of body poisons is eliminated by the bowel, and granted for argument's sake that the contents of the colon are poisonous, does not the liquefaction by purgatives increase their absorption?

It is common experience that a purgative produces a sense of weakness, often bordering on collapse, and we know that the vagus carries the para-sympathetic fibres which are motor fibres for the gastro-intestinal tract, and their stimulation reasonably provokes depressant vagus effects.

When then we add to these factors the unknown quantity of the number of bowel evacuations which may ensue from a purgative and the ordeal which each becomes for a prostrated patient, there is a strong case against even the initial purgation of a patient with pneumonia. . . .

There seems no reason for even this enema to be repeated too often. The patient's comfort and the condition of the abdomen are to be the indications rather than a timetable. Certainly no harm can come to a patient from going two or three days without a movement of the bowel. . . .

As for water—it should be used, in the words of Woodrow Wilson, "Without stint or limit"; it is the best antitoxic agent we have, and internally as well as externally the most efficient antipyretic. . . .and it seems wiser only to make use of spongings as they are indicated and even then with the greatest economy of the patient's energy. Once or twice in the twenty-four hours is usually sufficient. . . .

Since the greatest danger to the pneumonic comes from vasomotor paresis and as alcohol is a vasomotor depressant, its indiscriminate use does not appear rational.

Wynn very strongly insists that it diminishes the formation of protective substances in the blood.

Though one's own clinical impressions are open to many fallacies I cannot recall any instance in which its use as a stimulant changed the picture for the better. . . .

In general, however, one may say that he could treat a good many cases of pneumonia *out of one bottle of whiskey*. . . .

We all admit that the chief danger in pneumonia is circulatory failure. If this circulatory failure could be shown to be due to cardiac failure, the theoretical reason for digitalis therapy would be soundly established, but in how many instances have any of us seen the undeniable evidences of a failing right heart as shown by jugular pulsation and liver pulsation or edema?

The failure is much better explained by the poisoning of the medullary and spinal mechanisms which control the peripheral circulation, and upon these digitalis has no effect except a central cardio-inhibitory one. . . .

I confess to you that I have not the moral courage to refrain from making digitalis a routine procedure in pneumonia—this sounds like handing out the cold potato of qualified approval, but the approval is based more upon the figures of others than upon any striking results of my own. . . .

Strychnine has gone out of fashion but its use has always seemed rational on account of its known effect upon the spinal centers. . . . I regret that I have no personal experience with vaccines on which to found an opinion.

Other papers in this volume are Diagnostic Value of Some Reflexes, The Syndromes of Chronic Nephritis, Periodical Physical Examination, Prostatic Involvement in the Very Aged, Clinical Spirograms, Diseases of the Liver, Visualization of the Coronary Arteries, Pyelitis in Children, Spinal Anesthesia, The Maternal Side of Femininity, What Can the Medical Profession Do for Pharmacy?

This series is published by J. B. Lippincott Company of Philadelphia.

FUTURE SYMPOSIA

From the chairman of the local committee on symposiums, Dr. Earl R. Hoskins, we have the following:

The symposium on Renal Diseases is well under way and will consist of articles by Drs. Peckham, MacBain, Littlejohn, McConnell, Zaph, Collins, Robuck and Hoskins.

The November symposium on Acute Respiratory Diseases will be in charge of Dr. Becker, and Dr. Pritchard is in charge of the subject, Stomach and Duodenum, for December.

The general plan of THE JOURNAL symposia will be to have a series of osteopathic articles built around a master article dealing with the anatomy and physiology of the region under discussion with emphasis upon its osteopathic applications. Correlated with this will be one on the pathology of the region under study, bringing out its opportunities for self-repair. An article on the diagnosis with emphasis on the "why" of symptomatology and findings will follow. Therapy will be considered by different writers from the manipulative, dietary, constitutional and surgical aspects.

And then these articles will be blended into an editorial on osteopathic care of diseases of the region under consideration.

E. R. H.

OSTEOPATHIC CHILD STUDY MOVEMENT

Dr. Jennie Alice Ryel, chairman of the national organization committee for the advancement of an osteopathic child study movement to encourage studies of physical structure in average children and in those for whom social adjustment is difficult, namely: the gifted and the mentally inferior, sends in the following outline for the program period from June, 1929, to June, 1930:

This committee has been organized to act as an intermediary between osteopathic clinicians and research students and such lay institutions as are devoted to the study of the child. It is necessary first of all to compile statistics for the information of those educators who wish to ascertain the practical value of osteopathy in the treatment of problem children. In the interest of standardization we shall consider the following requirements necessary for a child study record acceptable to this committee:

1. Records must present both the physician's report and that of a psychologist.
2. Mental testing must be done either by a psychologist or by a teacher experienced in this work.
3. All case reports must be submitted on the standard record sheet prepared by this committee for the purpose.
4. An age limit will be fixed at three years and above.
5. Reports on gifted, delinquent, or mentally inferior children are desired.
6. In a clinical study reports submitted should cover

the whole class, with failures reported as well as successes.

7. Binet-Simon test will be made the standard for mental examination.

8. Under the heading Social Characteristics shall be reported attitudes toward the following: (a) associates, (b) authority, (c) work. Emotional Responses may be an outstanding item and the subhead is self-explanatory.

9. Under General Physical should be reported the pathological findings of a very complete routine physical examination. Tissue tone and description of head are important records.

10. It is the wish of this committee that this study shall go forward in the modest and inquiring spirit of scientific research. It is our purpose to give full credit to individuals and generous publicity to these investigations when the mass of available data becomes sufficient to warrant such a course. In the meantime we would advise against any general publicity.

ADVANCEMENTS IN ORGANIC SCIENCES

The introductions to so many of the newer medical texts are very interesting in that they show remarkable changes in the progress of scientific thought. This is particularly true of Delafield and Prudden's fourteenth edition of their Textbook of Pathology.* Read this:

Leaving aside an accurate definition of life, as not indispensable, and at present not attainable, it is important constantly to realize that the normal living body is a complex and delicate mechanism incapable of creating new forces, but able by means of its cellular and molecular organization, to accumulate or to store energy derived from without, releasing this under fixed and definite conditions. This storing of energy is possible by means of the capacity of living body-cells to build up complex molecular combinations from simpler forms. The energy so stored in the cells may later be released by the fracturing of the complex molecules into forms of simpler type. Both the storing and the releasing of energy are largely bound up with the activities and the catalyzers or ferments present in the cell. This process it is which makes possible all expression of life.

How clearly this paragraph sets forth a much more positive basis for study and how interesting to see the trend towards considering "man as a machine," the exact contentions of Dr. Still as announced in his principles and philosophy so many years ago. This and the following paragraphs on The Chemistry of Life, also set forth an excellent basis for the study in problems of diet.

In the paragraphs on the Character of Disease —how interesting to note:

Many of the earlier views concerning life and death and health and disease, which have long since given way to more accurate conceptions, still hold a certain sway among the thoughtless, perpetuated by traditional forms of speech. One of these is that disease is an entity, something foreign to the body which may enter from without, and with which the body may struggle and fight, which it may conquer or to whose ravages it may succumb. It will be wise for the student constantly to remember that disease is not a thing, but a process.

This is, indeed, real scientific progress—incidentally, the exact teaching Dr. Still advanced years ago.

The whole of the introduction and first two chapters of this book present summaries of advancements in the various organic sciences. The physician who hasn't time to read the many publications containing reports of recent researches will find these summaries most interesting and helpful. No physician can afford to be ignorant of these many advances due to the application of facts learned from scientific research.

There are more than eight hundred figures for illustrating the text and the material is so well arranged and correlated that to read it is a real pleasure. It is up-to-date medically and down to fact scientifically as far as medical research has progressed.

WILBORN J. DEASON.

*TEXTBOOK OF PATHOLOGY. By Francis Delafield, M.D., LL.D., and T. Mitchell Prudden, M.D., LL.D. William A. Wood & Co., 156 Fifth Ave., New York City.

Investing in a bizarre, reckless, unwholesome way of life in youth won't pay dividends when you have entered on your life work.

Those two good hands are the two best instruments you will ever possess. As Curtis Brigham says, an osteopathic graduate should have hands skilled to a fineness equal to an old school surgeon with ten years experience.

It is something to diagnose a vertebral or rib lesion, to know what it means, to understand its relation to other parts and distant organs, and then have skill in easiest adjustment.

But it will call for a finer touch sense to discover contracted and contractured tissue, those delicate acute edematous manifestations about articulations which may evidence increased temperatures; just what the pathology is, its state or degree; the nervous reactions; and when you have got these facts in tow you have started on your way.

One successful osteopathic physician tells me he has tried out half a dozen new graduates and they didn't know what to look for or what to do when it was shown. These lads missed a rare opportunity for an associate job with a fine type of high class patrons.

Another practitioner has had just the opposite experience, and now more than a dozen fine young D.Os. have in the last fifteen years settled in his city and are practicing successfully.

The fellow who's hungry for real facts and great truths isn't whining about his school. From laboratory to clinic there's enough good fodder that can be picked up or dug out to keep anyone digesting and assimilating for double the four or five school years—enough osteopathy to satisfy the hardest boiled self-appointed critic in our profession.

So learn all you can about everything there is to be learned. It will come handy some day.

The hopeless chap is the satisfied one—when you begin to hunger and thirst there's hope. If you haven't yet discovered anything in osteopathy to get excited about page the oculist and aurist—or pray:

Lord, Thy most pointed pleasure take
And stab my spirit broad awake.

Department of Professional Affairs

RAY B. GILMOUR, Chairman
Sioux City, Iowa

HOSPITALS AND SANITARIUMS

OREL F. MARTIN, Chairman
43 Evergreen St., Jamaica Plain, Boston

FOR HOSPITAL AT PORTLAND, MAINE

It is reported that the osteopathic profession at Portland has acquired possession of a large residence at 63 Pleasant avenue, which will be opened as the first osteopathic hospital in Maine. It is planned that this shall serve as temporary quarters pending the erection of a real hospital building.

It is reported that members of the staff will be Drs. Edith T. Walker, Mason H. Allen and Harry H. Campbell, Portland, Granville C. Shibles, Westbrook, and Albert E. Chittenden, Auburn.

PUGH OSTEOPATHIC CLINIC IN WASHINGTON

Reports from Everett, Washington, are that a new clinic has been opened with reception, x-ray laboratory, clinic, treatment and dressing rooms, with accommodations for five patients. The staff is said to include Dr. Steven Pugh, Dr. Minnie Pugh, specializing in women's diseases, and Dr. W. J. Siemens, eye, ear, nose and throat specialist.

LANCASTER (PA.) HOSPITAL STARTED

Dr. E. Clair Jones reports that ground was broken on July 29, for the osteopathic hospital at Lancaster, Pa. This project is an outgrowth of the clinic which has been conducted at Lancaster for a number of years.

The first of the three proposed units will be of brick and steel construction, three stories high with basement. The total cost of the unit, which is to be completed by December 1, is expected to be $85,000.

Department of Public Affairs

VICTOR W. PURDY, Chairman
725 Caswell Bldg., Milwaukee, Wis.

COORDINATION

The purpose of every bureau is to accomplish the work, determined by them, in bringing about closer contact between the public and profession. Just so far as it succeeds in doing this, is it deserving of compliment.

Our profession is still young, and of still more recent date is the well planned machinery for the accomplishing of great and lasting good. The record so far is good, but all (good) things can be made better. Close attention to the machinery of our association is praiseworthy, but an ever watchful eye on its output is necessary to success.

Our greatest success will result from the corordination of the bureaus so that in the future we will have possession of records which will show what service we are able to render the public and exactly what has been accomplished.

The Bureau of Industrial and Institutional Service, Dr. E. A. Ward, chairman, will endeavor to create the demand for osteopathic service for industries and institutions. It is a proven fact that employees, following disability, are returned to their work quicker through osteopathic care—and furthermore, disability less likely to occur.

The Bureau of Clinics, Dr. E. C. Brann, chairman, will organize the workers to meet the demand. Our osteopathic clinics should be ready to receive patients from the big industries and institutions. These clinics should keep careful records of work done so that, at a later time, they may be able to publish what has been accomplished, giving facts and figures.

The Committee on Osteopathic Exhibits, Dr. J. Ivan Dufur, chairman, would then be in a position to incorporate in their exhibits such charts, plates, etc., which would show the ways and means osteopathy has to cooperate with industry and institutions.

The Bureau of Public Health and Education, Dr. A. E. Allen, chairman, would have worth while facts to tell the public of our aims and accomplishments.

By the Director of Information and Statistics, Dr. Ray G. Hulburt, these chairman will be informed of results reported.

By coordination of these several branches of our organization work we can look forward to real accomplishments, with proof of the need of osteopathic physicians in industries and institutions.

V. W. P.

BUREAU OF CLINICS

E. C. BRANN, Chairman
705 First National Bank Bldg., Wichita, Kans.

NOW IS THE TIME TO ORGANIZE A CLINIC

The United States Government is becoming interested in the health of the children of the nation. On July 29, 1929, President Hoover called a White House conference on the health and protection of children. The members of this first conference were comprised of representatives of the great voluntary associations and federal, state and municipal authorities interested. This was more of an organization conference to plan for the main conference which will meet in about nine months. The President has announced that a series of committees will be appointed from the leaders in national organizations. The purpose will be to determine the facts as to the present progress and future needs that will develop care and protection of children. The subjects that are particularly to be studied embrace regular health examinations, school or public clinics for children and any kindred subject.

There are many osteopathic clinics throughout the United States that are keeping accurate clinical records. With these records we can show this committee how we can fit into the scheme which they are outlining. Where there are no clinics, now is the time to organize. There is no better way to serve osteopathy than by giving children who, due to financial conditions are unable to receive your skilled work, healthy bodies.

In connection with your clinic holding a meeting once a month for these children in connection with the fathers and mothers to discuss health subjects, might aid you materially in building up a clinic.

The California State Osteopathic Association at their last convention at Sacramento adopted a resolution that the board of trustees create a department of public health education and child hygiene. One of the functions of this committee will be to establish more osteopathic clinics.

The Patterson Osteopathic Hospital and Dispensary at Patterson, New Jersey, opened a free clinic for the poor and needy on June 15, 1929. This clinic is well manned in every department by competent and outstanding osteopathic physicians. It is the first and only osteopathic clinic in New Jersey. It is open six days and two evenings of each week.

Dr. Claude A. Porter, Port Angeles, Washington, reports that they will hold a clinic at Port Angeles on August 12; that they will examine children from the ages of four to fifteen. They will hold the clinic in the parlors of the Baptist Church. Osteopathic physicians of Port Angeles and vicinity are aiding in carrying out the work in each department.

The next clinic to be held at the Southwestern Osteopathic Sanitarium and Hospital at Wichita, Kansas, will be September 5. All the work of the day will be carried out by members of the staff. These clinics are held every sixty days.

E. C. B.

INDUSTRIAL AND INSTITUTIONAL SERVICE

E. A. WARD, Chairman
601 Second National Bank Bldg., Saginaw, Mich.

CHICAGO COLLEGE CONDUCTS ATHLETIC CLINIC

The South End (Chicago) Chamber of Commerce sponsored for the third year, a clinic for injured football players, at the games held during last season at Palmer Park. Professional service by physicians and students from the Chicago College of Osteopathy were given without charge, but local teams contributed to a fund to defray the cost of the clinic.

Injuries were cared for from fifteen teams and four parks. Ten of the teams were local and the other five, visiting.

Dr. F. F. Peckham was head of the clinic, but the football injuries clinic was under the active supervision of Dr. R. R. Peckham, assisted by Dr. H. Remsberg.

Aside from minor bruises and lacerations, there were seventy-nine patients cared for, requiring a total of 381 treatments. These injuries included leg and thigh, knee, shoulder, ankle, elbow, wrist, hands, ribs, nasal bones and miscellaneous. Three were distinctly serious, a fractured thigh, a fractured skull, and a fractured second cervical with a skull fracture.

OSTEOPATHIC STUDENT COACHES H. S. TEAMS

Harry S. Gaskeen, who graduated from the Kirksville College this year, coached the athletes in the Kirksville High school throughout his professional course. Gaskeen served as athletic trainer at Syracuse University, and coached at Youngstown, Ohio, for five years before going to Kirksville. During his time with Kirksville High, he produced two championship football teams and two second place elevens; four championship basketball teams, one of which won first place in the Northeast Missouri tournament and three placing as runners up, and one championship and two second place track teams. This does not include this year's track team whose record is not known to this writer.

OSTEOPATHIC COACH AT VIRGINIA POLYTECH

Dr. Robert S. Warren is reported as having been appointed varsity basketball coach and athletic trainer at Virginia Polytechnic Institute at Blacksburg. Last fall, Warren was football captain at North Carolina State college, Raleigh, and a member of the state's Southern Conference Championship Basketball team. In college at Kirksville, where he graduated in 1926, he was one of the leading athletes. Entering North Carolina State college later, he was unanimous choice for all-state fullback in 1927-28 and was voted all-southern guard on the North Carolina State Basketball title team of the Southern Conference last year.

OSTEOPATHY FOR MARATHON DANCE

The Great Falls (Mont.) *Daily Leader* for July 20 tells of a marathon dance in which one of the contestants was taken from the floor, but returned to continue dancing after undergoing osteopathic treatment.

CORRECTION

Dr. M. L. Riemann, Battle Creek, Mich., was mentioned on page 932 of the August JOURNAL as the holder of a public health office. Dr. Riemann reports that this is an error.

LEGAL AND LEGISLATIVE

ASA WILLARD, Advisor
Missoula, Mont.

ON HEALTH BOARD IN TEXAS

Dr. M. A. Schalk, Dallas, has been selected to serve for two years on the City Health Board.

CANADIAN FINED FOR TITLE "DOCTOR"

George Hickey, osteopathic physician of Sault Ste. Marie, Ontario, was fined $25 and costs in police court on July 3, on a charge of using the title "doctor" or some prefix or affix indicative of such title.

INFORMATION AND STATISTICS

RAY G. HULBURT, Director

A. M. A.—RED CROSS—OSTEOPATHY

The House of Delegates of the American Medical association at its recent Portland convention, is reported to have decided upon a determined protest against the recent decision of the Red Cross to permit its nurses to care for the patients of osteopathic physicians and of chiropractors in states where such practitioners are licensed. It is said that the House decided that the stand of the Red Cross to the effect that people who subscribed had rights in the matter, could not be accepted.

PRESIDENT'S CHILD WELFARE CONFERENCE

On July 29, the planning committee to prepare for a nation-wide child welfare conference to be called by President Hoover (JOUR. AM. OSTEO. ASSN., Aug., 1929, p. 933), gathered in Washington. The personnel of the preliminary committee follows:

Secretary Ray Lyman Wilbur, chairman; Edgar Rickard, New York, treasurer; Dr. H. E. Barnard, Indianapolis, executive secretary; Grace Abbott of the children's bureau of the labor department; Henry Breckenridge of the National Amateur Athletic Federation, New York; Mrs. Grace S. Burlingham, St. Louis; Bailey B. Burritt of the Association for Improving the Condition of the Poor, New York; Judge Frederick P. Cabot, Boston; Dr. Frank Cody, superintendent of schools, Detroit; Dr. S. J. Crumbine, American Child Health association, New York; Surgeon General Hugh S. Cumming; Dr. Lee K. Frankel, Metropolitan Life Insurance company, New York; President William Green of the American Federation of Labor; President Samuel McHammill of the American Pediatric society, Philadelphia; Dr. William F. King, Indiana state health commissioner; Gertrude B. Lane, editor of the Woman's Home Companion, New York; Mrs. William Brown Meloney of the New York Herald-Tribune; Mrs. Elizabeth A. Perkins, Evanston, Ill.; Mrs. Raymond Robbins, Brooksville, Fla.; Mrs. F. Louis Slade, New York; Dr. William F. Snow, national health council, New York; Dr. Louise Stanley of the bureau of home economics of the department of agriculture; Bina West, Port Huron, Mich., and French Strother, one of Mr. Hoover's assistants.

It was President Hoover who some time ago wrote "The Child's Bill of Rights":

"The ideal to which we should strive is that there should be no child in America that has not been born under proper conditions, that does not live in hygienic surroundings, that ever suffers from under-nutrition, that does not have prompt and efficient medical attention and inspection, that does not receive primary instruction in the elements of hygiene and good health."

SENATE CANCER INVESTIGATING COMMITTEE

The committee authorized by the Senate to study means by which the Federal government may aid in discovering a successful and practical cure for cancer (JOUR. AM. OSTEO. ASSN., Aug., 1929, p. 933) has decided that it has undertaken a big question.

The commerce sub-committee under the chairmanship of Senator Jones of Washington, and including Senators McNary, Oregon; Vandenberg, Michigan; Harris, Georgia, and Copeland, (M.D.) New York, sent a letter to all who attended or were invited to attend the conference of consultants, called by the Surgeon-General on April 9, 1928, to advise him regarding the program of the Public Health Service. The letter was sent for the purpose of ascertaining whether the report of the Surgeon-General with its recommendations, meets with the approval of the consultants at the present time; whether any modifications or further suggestions or recommendations are considered desirable, and whether it is believed that a reconvening of the group would result in the formulation of an improved program. Additional recommendations were also solicited, as to what the United States Government or anybody else might do toward working out a cancer cure.

The replies received are said to have emphasized the extreme difficulty of the problem of finding a cure for cancer, and to discourage any hope for early success, if the government should undertake to enter the field. It was suggested that a proper federal program which would permit more scientists to turn their attention to a solution, might be the best thing.

In addition to sponsoring the work of this committee, Senator Harris has introduced a bill which would authorize the Public Health Service and the National Academy of Sciences jointly to investigate means and methods of affording federal aid in discovering a cancer cure.

State Boards

The State Board of Osteopathic Examiners of Pennsylvania met in the office of the Department of Public Instruction, State Capitol, July 13, 1929. This being the annual meeting, the board elected its officers for the ensuing year. Dr. H. M. Vastine, president, succeeds Dr. O. J. Snyder, and Dr. Marshall S. House, Dr. H. M. Vastine. Dr. House was elected under the provisions of a new law passed by the last Legislature, which provides that the secretary can be chosen outside of the Board membership.

All communications directed to the Secretary of the Pennsylvania Board should be addressed to Dr. M. S. House, 20 S. 13th St., Harrisburg, Pa.

Florida.—Dr. Ralph B. Ferguson, 405 First National Bank Bldg., Miami, has succeeded Dr. Lamar K. Tuttle as secretary-treasurer.

Officers of the American Osteopathic Foundation

DR. R. H. SINGLETON
Secretary

DR. S. V. ROBUCK
President

ROBERT W. CHILDS
Vice President

DR. C. P. McCONNELL
Member of Board

CURTIS W. COE
Treasurer

JAMES R. GARFIELD
Counsel

DR. G. M. LAUGHLIN
Member of Board

Dr. S. V. Robuck, Chicago, president; Dr. George M. Laughlin, Kirksville, and Dr. C. P. McConnell, Los Angeles, are the professional members of the Board of Directors. The record of their accomplishments is well known throughout the profession.

Mr. Robert W. Childs, Chicago, vice president, is an attorney, prominent in the philanthropic affairs of the city and a trustee of Beloit College.

Mr. Curtis W. Coe, Chicago, treasurer, is a well known financier. He is resident vice president of Moody's Investors Service of New York City.

Dr. R. H. Singleton, Cleveland, secretary, has been associated with the osteopathic foundation idea ever since its inception.

Mr. James R. Garfield, Cleveland, counsel, an attorney of national reputation, is a son of former president James A. Garfield. He was Secretary of the Interior under President Roosevelt, and has held important commissions under succeeding administrations, including the present. Mr. Garfield is also counsel for the Cleveland Foundation.

The Organization Committee was composed of Drs. E. R. Booth, H. L. Chiles, George W. Riley, Ray B. Gilmour and R. H. Singleton, who are all charter members of the corporation.

The American Osteopathic Foundation was organized by the American Osteopathic Association as a charitable corporation under the laws of the State of Illinois.

The need for an official foundation, organized in a manner to inspire the confidence of our profession and of the public, has long been evident. Such an organization should have all the attributes of strength and permanence necessary to secure its share of the vast sums of money that are continually being placed at the disposal of philanthropic organizations. It must be in position to encourage and support the various undertakings that contribute to the success of the osteopathic profession. The officers of the American Osteopathic Association now feel that they are presenting to the profession that type of an organization.

Consider this foundation as yours, to utilize for the advancement of osteopathy. Its success will depend largely upon your support.

The accomplishments of the American Osteopathic Foundation, its virility and stability will be largely determined by the immediate and continuous support granted by the profession itself.

Properly, our first move is to get the financial support of our own profession, that we may be in better position to approach our wealthy friends for larger contributions, bequeaths, endowments, etc., which are necessary to enable the Foundation to fulfill its mission.

Each member of the profession is now urged to make some contribution to the Foundation fund, and to interest his patients in the organization and its purposes. Checks should be made payable to the American Osteopathic Foundation, and addressed to the Secretary, Dr. R. H. Singleton, 713 The Arcade, Cleveland, Ohio.

Society of Divisional Secretaries

L. T. HESS, President
326 Masonic Temple, Zanesville, O.
J. A. CHAPMAN, Secretary-Treasurer
Tri-State Bldg., Fort Wayne, Ind.

At the annual meeting in Des Moines, June 18, the following officers were chosen: Dr. L. T. Hess, Zanesville, Ohio, president; Dr. C. N. Stryker, Sioux City, Ia., vice president; Dr. J. A. Chapman, Ft. Wayne, Ind., secretary-treasurer.

It might be well to restate the objects of this society that those interested can again affirm their willingness to support its activities. They are: (1) To create closer contact among the secretaries of the various states; (2) To promote greater efficiency in the conduct of the important office; (3) To give each other the benefit of various ways and means in organization work, legislative activities and many other things; (4) To assist in stimulating interest in our professional organizations; (5) And to cooperate in a more mutually advantageous way with the A. O. A. Central office.

The dues are $5.00 per annum for each secretary belonging to the association, payable from the treasury of the state organization. These monies are necessary to carry on the correspondence and to provide a fund for emergency.

At the meeting this year there were about thirty-five present. Of this number there were only six actual secretaries, but many states had sent a representative to act in his place and to give us a word of greeting or a bit of good advice regarding the operation of the society. There were also present the editors of many of the State publications as invited guests of the members. Dr. Brann, the retiring president, gave a short address on the objectives of the society, asking all to use their efforts this year to further perfect the organization, making it one of the powerful bodies of the A. O. A. circle.

The interest manifested by the States in sending representatives to this conference is indicative of the widespread thought now going on in the profession toward a more cohesive effort of the separate units in presenting a united front both for offense and defense. It is only through the fullest cooperation that we may continue to make progress in the healing art and this association of the state secretaries should be capable of arousing the physicians toward better professional government. We should be able to enlighten the rank and file on the objectives of the different parts of the country and the world. Thinking one thought, doing the same task and keeping everlastingly at both of them, should eventually resolve itself into widespread correlated professional activity.

Dr. C. N. Clark, business manager of the A. O. A., urged that the secretaries keep in very close touch with the Central office particularly in the matter of the new Directory and its correctness.

Dr. A. E. Allen, of Minneapolis, stressed the value of an official bulletin in those states that were fully organized. He suggested that in those parts of the country which had scattered professional populations that several states should combine to issue a creditable publication.

Dr. V. W. Purdy, Milwaukee, stated that there was a need of greater cooperation between the state secretaries and the chairmen of the various bureaus of the national organization. He suggested that the names of the various chairmen be placed in the mailing lists of the state publications.

Dr. Curtis Brigham, Los Angeles, spoke on the value of the various state medical libraries, open for the members of all the healing branches. He urged that the osteopathic profession make wider use of these facilities.

Dr. G. V. Webster likened the state secretary to the nerve cell, receiving and transmitting stimuli. (I wonder if he thought that lack of cooperation on the part of the profession at large was due to a lesion?)

It will be the endeavor of this column every month to bring before the profession and its officers some of the problems that are mutual. These columns are open for discussion and suggestions. State secretaries are especially urged to take advantage of the opportunity presented and to get a more intimate acquaintance with their fellows in similar official position.

Current Medical Literature

EARL R. HOSKINS, Director
17 N. State St., Chicago

Groping for Physical Causes of Disease*

RAY G. HULBURT, D.O.

The understanding which most physicians of the "old school"possess, relating to the human body and its working, is woefully deficient, as was shown in the last preceding installment of this series of articles.

Their lack of knowledge concerning many supposed cases of abdominal pathology; regarding the mechanical factors in many internal disabilities, and even actual cases of plain industrial injuries, will be outlined in this and the next succeeding installment.

JOINT LESIONS CAUSE SYMPTOMS, STIR UP PATHOLOGY

Carnett† was quoted recently in this series (and he had been quoted before) as saying that there is no such thing as chronic appendicitis, and that attention to spinal strains and lesions is the indicated treatment for the condition which has gone under that name.

Of course, other writers have discounted the belief in chronic appendicitis and even ascribed some of its symptoms to mechanical causes. Starr [314] (1925) said:

> ‡Physicians and surgeons alike put it down as chronic appendicitis and out came the appendix: Occasionally patients were relieved of most symptoms, but many were not only not relieved but some seemed worse. It then became the cue to attribute the trouble to adhesions. (What a salvation that term has been to the profession!) Some traded the diagnosis for gall bladder disease or gastric pathology. I am disregarding the period when the ovary was "hunted in pairs" for the relief of all ills of women.
>
> In these people who have had the appendix removed for chronic appendicitis and who pass from one office to another as confirmed neurasthenics, you will find that they have met with accident or have passed through serious illness. The neuro-muscular control has been upset.

He gave as an extreme example, a young woman in apparently perfect health, weighing 143 pounds, who was riding in an automobile which dropped into a culvert.

She was not hurt and thought the incident a great joke; but she began to have "indigestion." In two years she weighed less than a hundred pounds and vomited within two hours after eating. She was found to have an atonic cecum that had failed to rotate. The appendix was removed, the retaining bands divided, the cecum plicated and fixed into a bed just above the brim of the pelvis with satisfactory results. He concludes:

> Here was a congenital condition, without symptoms for years until aggravated by an unrecognized injury to her neuro-muscular control.

LACK KNOWLEDGE FOR BASIS OF HYPOTHESIS

There are a few other thinkers in the so-called "regular" profession of medicine profoundly dissatisfied with the state of their knowledge, as has been so definitely shown before. But their number seems pitiably small. Among those who discussed Lowman's[219] (1926) paper on the role of iliolumbar ligaments in low back strains, three stand out in this category.

> [Geist] Orthopedic history shows that we are clutching at any ideas or processes that seem to help solve the low back problems. These procedures rank from physiotherapeutic means to extensive surgical operations designed to remove offending bones or to fuse them.
>
> [Steindler] I have always believed that until we have exhausted the analysis of low back pain from the standpoint of mechanics, which is about the only thing we understand well at this time, we have no

—*Fifteenth in a series of articles on "The Trend Toward Osteopathy." Previous installments appeared in JOUR. AM. OSTEO. ASSN., July, 1927; Jan., Mar., May, June, July, Aug., Oct., Nov., Dec., 1928, and Apr., May, June, Aug., 1929.

†JOUR. AM. OSTEO. ASSN., Aug., 1928, 934.

‡Quotations indicated thus are condensed from the form in which they originally appeared.

reason to go further for any explanation of the traumatic low back pain.

[Ghormley] It is up to us to go on finding other such factors, and maybe some day we can put together a plausible theory for variations in low back strains which are so confusing.

Ely, of the orthopedic department of Leland Stanford University, discussing Langnecker's[207] (1915) paper on lesions of the lumbosacroiliac region, said that in his department with its complete outfit and all facilities:

We are completely at sea on this subject of the lumbosacroiliac lesions. I have become discouraged trying to replace these so-called slipped joints—in trying to get the painful ones relieved—and we are ready and eager to put all the facilities that we have at the disposal of anybody who will undertake to help us clear this matter up.

BITTER OPPOSITION TO NEW KNOWLEDGE

That sounds encouraging. But what really happens when men do try to find out what lies beyond? Emerson[208] (1925) said:

Since the very mention of the name physical therapy arouses in the minds of many of our profession an intense antagonism, there must exist a prejudice against them which to outsiders must be incomprehensible. . . . Any therapy, however good, is safe only in the hands of those well enough trained in general medicine to use it. And yet when one of the regular profession either speaks or writes enthusiastically on this subject his confreres express horror at his irregular tendencies.

J. Madison Taylor[216] (1918) has told how:

Accident directed my attention that way, and whatever of culpable enthusiasm may have animated me originally, the disapproval, the jeers, even contempt I first roused, would have deterred efforts did not the evidence amply warrant further pursuit.

DE FOREST DISCOUNTED AND DISCREDITED

De Forest's experiences are interesting. In the summer of 1926 newspapers[217] told of researches conducted in the medical laboratories at Cornell University by two New York physicians. They were said to be seeking the anatomical basis for the cures which seemed to be wrought by adjustment of bones, in various conditions of nervous irritation commonly mistaken for rheumatism.

Among the numerous diseases which the researchers feel certain are susceptible of cure by their method are nervous prostration, neuritis, diabetes, Raynaud's disease, sciatica, lumbago, neuralgia, angina pectoris and various forms of painful affections generally classed as rheumatic. Such ailments, they say, are not really rheumatic, but are caused by mechanical nerve irritation.

It was said that 3,000 cases had been observed and treated by the two men making investigations, and that:

By dissection, by study of the human skeleton, by actual experiment on living patients and by the aid of the x-ray they have sought for the thing which by a slight dislocation of the pelvic structure is apt to cause severe sciatic pains in the leg, or any one of a host of complaints.

It was also said that they were working "with the wholehearted cooperation of the staff of the Cornell Medical college." However that may have been, as osteopathic physicians began to point out the resemblance of de Forest's findings to their own principles, the work was drastically and systematically discounted. *The Journal of the American Medical Association* said[218]:

The de Forest-Baldwin thesis seems to be that a wide train of symptoms are caused by "sacro-iliac dislocation" and that manipulations that "reduce" this result in cure. No member of the staff of the medical college was engaged in the investigation, and accordind to the professor of anatomy at Cornell, neither Dr. de Forest nor Dr. Baldwin was able to demonstrate any anatomic basis that would explain either the alleged symptoms or the alleged results.

The Professor of Anatomy himself,[219] introducing the statement just quoted, said:

An alumnus of the university and another physician of New York State, at their own request, were permitted to work in the anatomic laboratory.

FALL COULD NOT CAUSE VOCAL PARALYSIS—CABOT

Even such a man as Richard C. Cabot[220] (1925), was not interested in a history of a fall, without external injury, as a possible explanation of vocal cord paralysis. A patient was brought into the hospital after a fall, semiconscious, with labored, stertorous breathing. His larnyx was reddened and edematous and made very slow improvement. After two weeks he died, evidently of pneumonia, though it was impossible to be sure before the autopsy, because x-ray pictures were unsatisfactory, and lung sounds were valueless, since a tracheotomy had been performed. In the first detailed account of throat conditions, the left vocal cord seems to have been paralyzed. The only thing to be emphasized here is in connection with the vocal cord paralysis. When Dr. Cabot was asked:

Does that history of fall with injury to the throat suggest anything?

He answered:

That does not interest me at all. I cannot imagine a fall with serious injury to the throat. No external injury that I know of without wound—and there is no wound—could paralyze his vocal cord.

He had already said:

Why is his left vocal cord paralyzed? I don't know. I know of no regular, recognized cause for paralysis of the left vocal cord except aneurism and mediastinal tumors. Hodgkin's disease in the mediastinum can press on the recurrent laryngeal nerve so as to give paralysis. But the x-ray, I think, excludes mediastinal tumor.

We have had an x-ray of the chest, and although it was directed towards the lungs and not primarily towards the heart, it would have shown aneurism if it had been present. In the plate we see not the slightest evidence of aneurism.

Far be it from me to say that a sudden, traumatic, lesion was the cause of this man's asphyxia and death. But as to the history of a fall and subsequent vocal cord paralysis—that is something else. Surely it would be easy, especially for an intoxicated person, as this one was, to strike his head in falling in such a way as to produce a neck subluxation with serious consequences to the vagus nerve, affecting the vocal cord through the recurrent laryngeal.

NECK LESION COULD CAUSE VOCAL PARALYSIS

As Russell R. Peckham[221] says:

The vagi and their branches supply all essential impulses and sensory reception mechanism to the larynx. The motor impulses which control the cords and have to do with speech, are sent over the recurrent laryngeal nerves, which leave the vagi trunks in the thorax and return to the larynx. On the left side the nerve is looped around the aorta and therefore an aneurism may disturb or annihilate laryngeal function.

The reflexes which control the blood supply to the larynx, and would be important in permitting the formation of the ulcer, the presence of edema and the unobstructed progress of the infection, are likewise finally collected and returned by the vagi. These impulses do have a somewhat circuitous route and many mechanical influences might get to them. The impulses leave the vagi by superior and middle laryngeal nerves on both sides and are distributed largely through the lower part of the pharyngeal plexus. Before they reach the plexus they are involved in the meshes of cervical fasciae which through cervical lesions might interfere with the ready transmission of impulses. At the base of the skull the relation of the vagi and their sensory ganglia is even more immediate, since from the margin of the jugular foramen are derived those layers of cervical fascia which help

form the carotid sheaths. It seems probable to me that at or near the point of exit greatest injury might be done a vagus nerve by lesion. The question next arises, could an injury to the whole vagus trunk produce its effects upon one small division of the nerve? The answer lies in the fact that sciatic nerve disturbance may give symptoms over only a small part of the whole nerve distribution.

MECHANICAL FACTS CONSISTENTLY IGNORED

If mechanical factors play so great a part as elements in causing disease, then how do the "old school" doctors get around them? This question, it is hoped, will be answered adequately in the next installment. The so-called hysterias, neuroses and malingerings will be considered in their relation to actual injury. Competent authorities will testify as to the almost incredible inadequacy of the care given in cases of severe trauma. In other words, the doctors get around the facts by simply ignoring them.

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American Osteopathic Society of Ophthalmology and Otolaryngology

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COOPERATING WITH THE OPTOMETRIST

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Tacoma, Wash.

The American Association of Optometrists is well organized. There are some twenty-five thousand practicing in the United States today, actively engaged in diagnosing, treating and fitting glasses for relief of headache, eye strain, etc. A large number of patients having these symptoms consult the optometrist first, believing it is glasses they need, while in reality they are suffering from some systemic disorder, manifest to them only in the eyes.

In accordance with the procedure of most optometrists such work is referred to a medical practitioner or oculist, they at the same time knowing in most cases that the patient will not be referred back to them for their services. The reason these cases are referred to a medical doctor is that most optometrists are not fully aware of the scope of osteopathy. They think that osteopathic physicians are no better qualified than those imitating osteopathy. We have not educated them regarding our qualifications.

It is my good fortune to have been associated with a good optometrist for the past year. He, like many others, knew little, if anything, about osteopathy. I took it upon myself to enlighten him, with gratifying results to both of us. Through this acquaintanceship I have come to realize the importance of cooperation, both from the humanitarian and remunerative standpoints. I have found that optometrists and osteopathic physicians work together surprisingly well. They can help us and we can help them.

The idea struck me that this situation is of international importance, and to start the ball rolling, I prepared a paper and was invited to present it before the Western Washington Optometric Association meeting, November 10, 1928, and with the assistance of Dr. A. B. Ford of Seattle, got the movement started in the Northwest. Now we are to have joint meetings to perfect our ideas to interlace our work.

Osteopathic physicians, optometrists and dentists make an ideal combination for clinical work. A well qualified optometrist is trained to recognize many pathological conditions of the eye, detect systemic disorders, including conditions of the nose and throat that need treatment before glasses can possibly give the best results.

I would like to see a movement for greater cooperation of this sort grow and spread. We are going to need all the influence and support we can get in the next decade.

914 Fidelity Bldg.

American College of Osteopathic Internists

S. V. ROBUCK, Editor
25 E. Washington St., Chicago

PSYCHOANALYSIS

ANNA MARY MILLS, D.O.
Champaign, Ill.

Psychoanalysis, stated as such, is a big subject, chosen purposely so that it may be touched upon from any or many angles.

THE STATUS OF PSYCHOANALYSIS

Psychoanalysis, like every new idea or science which is born into the world, stands more or less in disrepute. Tradition says that nothing can be fully accepted until it has stood the test of time. Such a rule is probably the best stimulation for growth, since opposition or resistance makes for deepest rooting. Furthermore, any subject which will not stand investigation or probing does not merit survival. It is necessary, however, if we are to recognize value in a thing, to remember the statement made by Herbert Spencer which our profession has used extensively in the last few years. "There is a principle which is a bar against all information, which is proof against all argument and which cannot fail to keep a man in everlasting ignorance. That principle is 'condemnation before investigation.'" But even with attempted impartiality on the part of the collective body, one must thoroughly believe in the new science, regardless of what it may be, before he can have the courage to proceed and adhere to his belief in its merit and development.

SOME CRITICISMS OF ANALYSIS

There has never been a time when the need for psychoanalysis has been so imperative; for now the people are becoming increasingly conscious of the fact that they need something—just what, they do not always know. Many authorities explain the present unrest and unsettled condition as a result of the war. The war, no doubt, was a climax; the situation which resulted in war had been smouldering and simmering for years. Just so has the unrest and dissatisfaction existing today been smouldering and simmering for generations. The pendulum of tradition and taboos has been, for years, swinging to such an extreme that its extremity has produced a tremendous reaction and sent the pendulum to just the opposite extreme. This decision of the pendulum to take a move is very fortunate; it sometimes requires an earthquake to get us out of our ruts, and while the situation is drastic, it is not one that would improve through delay.

But the swinging of the pendulum has brought chaos; the reaction has not always been understood, and the more one was steeped in traditions, the worse the confusion. Such is the situation today, and in too many cases the seeker does not know what is wrong, nor where to turn for help. If the need grows too imperative, the family doctor is the one likely to be approached, for to whom else can the disturbed one turn, even though he may not feel that he is organically affected—though relief is not secured, the organs will in time certainly fail to do their work. What help is obtained from the doctor? The chances are that the physician himself is as disturbed as the patient, and if he has not been fortunate enough to know where or how to secure assistance, the only aid he can give his patient is the relief gained by lending a sympathetic ear—which in itself is very valuable. For no one can solve another's problem until his own problem is solved.

In the face of such a demand for help, fake or incompetent so-called analysts have sprung up over the

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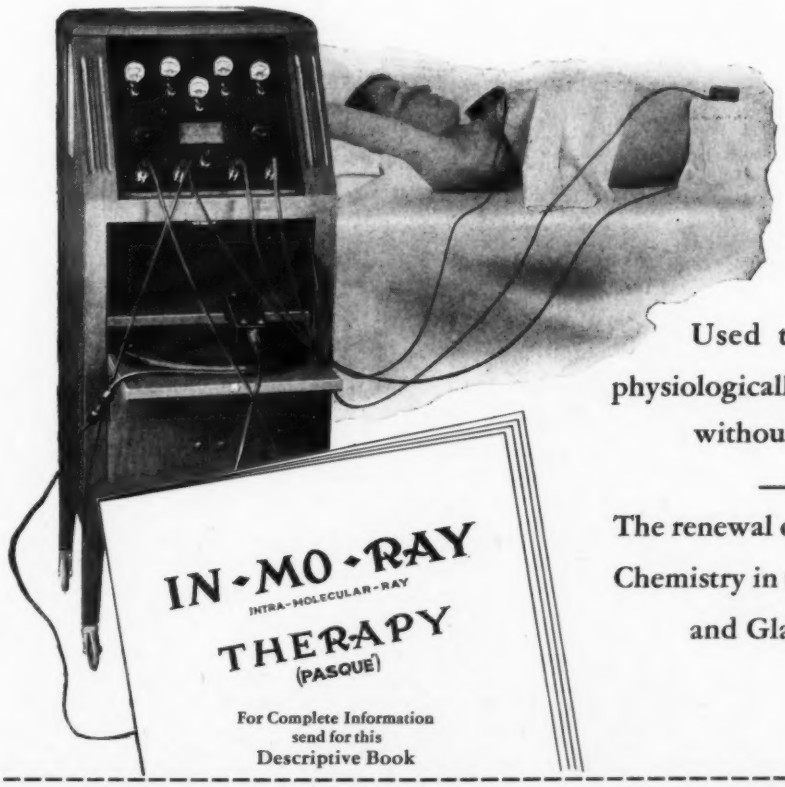

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The Detroit Free Press

November 10th, 1928

RAY EXTENDS LIFE, DETROITER CLAIMS

Machine's Use Will Make Aged Young, Societies Told.

Special to The Free Press.

Cincinnanti, Nov. 9.—Within the next five years base ball players and prize-figthers will no longer be through in their early thirties; gentlemen of 90 and 100 will be playing baseball; and women of the same age will be dancing until the small hours.

This is to be achieved by use of a magnetic, inter-molecular ray, discovered by Dr. E. H. Pasque, of Detroit, and discussed today by Professor R. A. Muttkowski, of the biology department of University of Detroit, at the final session of the Southern Ohio and Miami Valley Homeopathic Medical societies.

The ray, Professor Muttkowski explained, penetrates the cells of the body and stimulates the glands, particularly those of endocrine groups, which have the greater burden of retaining the condition of the body. Old age follows the decay of the tissues and glands, but with the stimulation provided by the ray, the tissues and glands will retain their vitality many years longer, according to the theory.

What the ray will do can only be surmised as it has been in use only a few years, most of which time has been devoted to experiment. It was revealed, however, that water bugs and other insects, treated with the ray, have lived twice as long as their brothers and cousins who had not that advantage. Plants, Professor Muttkowski said, have shown a similar reaction. Human beings, it is thought, may respond similarly.

SEE ARTICLE IN THIS ISSUE

....Now, it is a fact of inestimable importance that oxygen has a very high magnetic coefficient. It is paramagnetic at body temperatures and more or less diamagnetic at below or considerable above body temperatures. If we theoretically consider this in conjunction with the possible increased molecular motion caused by magnetic concentrations scientifically modified to correspond with the living rhythm or resonance of the cell, we will have a situation wherein the increased motion of the molecule produces greater energy exchanges, breaks up the latent congestion and makes available a highly paramagnetic oxygen for further oxidation. If this cellular group of our theoretical consideration should belong to the Endocrines or, in other words, should be one of the important glands of internal secretion, this increased energy exchange and renewed oxidation would cause this organ to produce hormones at a greater rate and of a kind compatible with the system to which it belongs. We would now have started a chain of events of great consequences to the system, not attainable by any other method because the cellular groups under magnetic concentration are themselves permanently benefited, not exhausted by this activation....

William L. Hartman, M. D., in his paper on IN-MO-RAY Therapy.

....In over a hundred cases of chronic prostatic enlargement treated with IN-MO-RAY have had very wonderful success; in 90% high blood pressure and enlargement of prostate has been brought down to normal in the course of from three to six months' treatment. All the cases I come in contact with are chronic and I do not give any internal medication and practically no irrigation unless I should find pus in the urine. It is most interesting that these results are accompanied with a general reconditioning of the whole system. The patient gains in weight, neurasthenic symptoms disappear and the sexual vigor of the patient, which more often than not was in a state of partial, if not total, impotency, is rehabilitated to an astounding degree....

Eber W. Gurley, M. D., in his paper "Prostatic Radiation with IN-MO-RAY."

entire country. Unfortunately, because they have not known or have made sure of the legitimacy of the analyst, the victims have been numerous; and the effect on the one seeking help is more likely than not to be disastrous. The so-called analyst may be able to carry his patient safely to a certain point; after that everything is in a quagmire so far as the mental state of the patient is concerned.

Again, the mental condition of the patient seeking help may have reached such a point that the shock of bringing subconscious contents into the conscious is so great that mentally he goes over the border. However, the patient would eventually have reached such a climax without analysis, so that the fault should not be laid at the door of analysis.

Psychoanalysis is resisted by some physicians, because, not clearly understanding its basis, they get the impression that analysis is invading and transgressing the field of organic disease, and acting in the capacity of suggestive therapeutics. Nothing could be farther from the point. The capable analyst as a first requirement must be a physician so that he may adequately differentiate between pathogenic and psychogenic disturbances.

Analysis cannot be successful if the patient's neurosis is caused from a neuritis of pathogenic origin, or if the neurosis is produced from any number of pathological conditions which could be mentioned. But what doctor has not been driven to desperation by the neurotic patient in whom painstaking and thorough examination shows no pathology whatever; or even by the patient whose organic disturbances having been corrected, still persists in his neurosis? Many times the doctor may find the cause for the psychogenic trouble, but advising the patient how to correct it is another matter and often brings a strain on the doctor which is more tiring and nerve wrecking than any amount of acute work.

WHO MAY BE ANALYZED?

It goes without saying that there must be a level of mentality as a basis for analysis, and a sincere and earnest desire to know the truth.

There are two types of persons who can be successfully analyzed: (1) The person who has realized that there is a hidden meaning in life and has the urge to find it; (2) and the person who has been cheating himself so long that as a result he has developed a neurosis that compels him to seek release.

WHAT IS PSYCHOANALYSIS?

Psychoanalysis is in part the process of placing the conscious and subconscious in harmony with each other.

Such terms as the "conscious" and "subconscious" are vague if not actually even disputed terms. Such a situation is not surprising when one considers the fact that any dealing with a subject so intangible as mental processes must of necessity be more indefinite than mathematics and its processes.

To speak of harmonizing the conscious and subconscious, as a statement, does not throw much light on the subject. We speak of conscious processes as being those which we are holding in consciousness. The unconscious contains not only all the forgotten experiences of our personal lifetime, with its pleasant as well as its unpleasant and repressed experiences, called the personal subconscious, but it also contains a collective layer which is not individual but peculiar to mankind in general, and containing elements and attributes handed down from all the past generations. In the buried treasure of the subconscious, we have numberless potentialities lying dormant, only waiting for the awakening.

We may compare the conscious to the visible part of the iceberg; the subconscious to the invisible part. As the invisible part of the iceberg controls the part above water, so the conscious is controlled by the subconscious. Since we are responsible for our conscious acts, it is our individual obligation to bring the subconscious up into the conscious.

The bridge from the conscious to the unconscious is by dream or phantasy. The road is a devious one, for the subconscious resists showing its hidden contents; and so we have the case of where the patient does not know he dreams or if he is aware of dreaming, he cannot remember their contents. If he does get his dreams they are so veiled and distorted that the meaning is not recognized except by one who has made a deep and profound study of the subject. The dream censor is indeed a wily and formidable guard.

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(To be continued)

SERIES ON PRACTICAL SUBJECT

With this issue, a series of articles on psychoanalysis is started. They are certain to attract considerable attention and interest, being well written by one who is unusually qualified to discuss the subject.

That the subject is a practical one is generally realized but little understood. Dr. Still had an excellent working knowledge of the subject and realized its value. Dr. Harry Bunting says that many years ago he asked the "Old Doctor" why he didn't install a chair of Psychiatry in the school at Kirksville, and his reply was, "The world is not ready for it, but some day it will be." As Dr. Mills points out in her first article, the world is ready for this form of treatment which may well be styled reeducation.

Physicians and laity alike are becoming more conscious of the need of something that will aid in properly orienting the individual. The "old family doctor" was a great help to patients in their distress even though "the only aid he can give his patient is the relief gained by lending a sympathetic ear." For that alone, he has gained an enviable place in the hearts of most men and women of matured years. The fondness is almost akin to reverence. Huge religious orders have been developed and extensive activities engaged in because of the prevalence of psychic complexes. The time is coming soon when logic and research will lay a substantial foundation giving us a rational approach to this subject that will supersede superstition. This change will be fought more vigorously than most new developments because of necessity many accepted and cherished ideas, customs, etc., cannot stand the light and will have to fade into the shadow of the past with other partial truths of their kind. Though the change will be by evolution rather than revolution, nevertheless it will be rapid and many will be caught in the rapid swirl of psychological concepts and become badly confused. The failure of many to properly utilize the new concept will cause others to condemn.

However, physicians are seeing the unvarnished truth of life as few are privileged to see. Fantastic ideals and hopes will not change facts one iota. The urge for truth will prevail regardless of where it leads. The results are not to be feared since truth is entirely in harmony with laws of the great universe. If parents could but have a true concept of the latent influence upon the child of an unthoughtful act or statement, and guide their teaching accordingly, a great deal of grief and disease would be spared the human race.

In order that the reader of this series of articles may more thoroughly appreciate their value, and the educational foundation of the writer, a brief biography will be in order. Dr. Anna Mary Mills graduated in osteopathy at Kirksville, June, 1912, and then conducted an extensive general practice first in Tuscola and later in Champaign, Illinois. Being ambitious, she availed herself of many postgraduate courses, notably at the Chicago College of Osteopathy, Dr. R. H. Nichol's course in Physical Diagnosis in Boston three times, special work in the State Tuberculosis Hospital at Rutland, Mass., a Children's Clinic in New York City, and other courses of like nature. This training and experience served to lay a substantial foundation for the type of practice in which the doctor later prepared herself to specialize—psychoanalysis. Training in this specialty was under the noted Dr. H. G. Baynes of London, pupil and assistant to Dr. Carl Jung of Zurich, Switzerland, founder of the Jungian school of psychoanalysis, and others. Training under Dr. Baynes began in 1926 and has been rather intensive ever since.

Dr. Mills' statement of how she became attracted to this subject is interesting and instructive: "My first conscious need for this work was brought about by the knowledge that as a usual thing it was easy enough to find the cause of the neurosis in a patient, but not so easy to find and apply the remedy. From that interest developed

an appreciation of the irrefutable fact that one cannot carry a patient through analysis or help solve his problems until the would-be analyst has been analyzed himself."

S. V. ROBUCK.

American College of Osteopathic Surgeons

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SECOND ANNUAL CLINICAL MEETING

The second annual clinical meeting of the American College of Osteopathic Surgeons will be held at the Lakeside Hospital in Kansas City, Thursday, Friday and Saturday, October 3, 4, 5. The general headquarters will be at the Kansas City Club. Dr. George J. Conley is the program chairman.

The leading surgeons from the osteopathic profession will demonstrate their operative technic at the various clinical sessions at this meeting. Clinical material in great abundance is available; the program as arranged at this time follows:

Thursday

7:30 a. m.-12:45 p. m.	Operative Clinics, Lakeside Hospital. Critics, Drs. D. S. B. Pennock and Albert C. Johnson.
12:45 p. m.	Luncheon at Lakeside Hospital.
2:00 p. m.	Case Discussions at Kansas City Club, "The Problem of Training the Prospective Surgeon," Dr. Orel F. Martin. Discussion led by Dr. John Schwartz.
4:30 p. m.-5:30 p. m.	"The Standardization of the Postoperative Care," Dr. E. G. Drew. Discussion led by Dr. Edward W. Jones.

Friday

7:30 a. m.-12:30 p. m.	Operative Clinics at Lakeside Hospital. Critics, Drs. H. L. Collins and H. E. Lamb.
12:45 p. m.	Luncheon at Lakeside Hospital
2:00 p. m.	Case Discussions at Kansas City Club.
3:30 p. m.-4:30 p. m.	"Professional Responsibility to the Osteopathic Hospital," Dr. H. C. Wallace. Discussion led by Dr. O. O. Bashline.
4:30 p. m.-6:00 p. m.	Business Session.

Saturday

7:30 p. m.-12:45 p. m.	Operative Clinics at Lakeside Hospital. Critics, Drs. S. D. Zaph and H. A. Fenner.
12:45 p. m.	Luncheon at Lakeside Hospital.
2:00 p. m.	Case Discussion, Kansas City Club.
3:30 p. m.-4:30 p. m.	"The Business and Ethical Relationship Between Specialist and Referring Physician," Dr. W. Curtis Brigham. Discussion led by Dr. George Laughlin.

Adjournment

CARCINOMA OF THE UTERUS*

S. D. ZAPH, D.O.
Chicago

Carcinoma of the uterus, according to its anatomical location may be spoken of as,—

(1) Carcinoma of the vaginal portion of the cervix, or that portion between the external os and the vaginal vault;

(2) Carcinoma of the cervical canal, or between the external below and the internal os above and;

(3) Carcinoma of the uterine cavity from the internal os to the fundus.

Histologically, carcinoma of the uterus is divided into,—

(1) Squamous cell carcinoma and,
(2) Cylindric-cell or adenocarcinoma.

As a rule the squamous type develops in the epithelial covering of the vaginal portion of the cervix. However, in some instances it has been found in the endometrium of the uterine body. It is thought that its presence here is due to cell-inclusions, but more probably it is the result of metaplasia of the surface epithelium.

The cylindric-cell type originates in the cell covering of the endocervix or in the cells of the cervical glands. Carcinoma of the body is nearly always of the cylindric-cell type and it originates either in the surface or in the glandular epithelium.

Carcinoma of the cervix is by far the most common. Statistics show that the cervix is involved primarily in approximately ninety per cent of all cases, while some investigators believe that carcinoma of the body of the uterus does not exceed three per cent.

In the early stage, cancer of the cervix appears as a small, hard, indurated nodule in the anterior or posterior lip. Due to absence of symptoms at this stage the disease is overlooked as a rule and the growth is discovered accidentally during a local examination. Usually, when first observed, after a certain period of distressing symptoms when the physician is consulted, the disease is fairly well advanced, presenting either marked enlargement with granulation and induration of the cervix, an excavated ulcer, or an extensive cauliflower growth extending over the external os and at times filling the vagina. Cervical carcinoma is characterized by proliferation, infiltration, ulceration and excavation. Squamous cell carcinoma of the vaginal portion of the cervix is characterized both by proliferation and infiltration. Carcinoma of the cervical canal is marked by infiltration with but moderate proliferation, while carcinoma of the uterine body presents very pronounced proliferation with very little infiltration. The squamous, cauliflower type is the least malignant, and cases that appear hopeless during our first examination give the best results under the proper treatment.

Nine years ago I removed, by cautery, an extensive cauliflower growth which nearly filled the vaginal vault, following it with three applications of radium at four-week intervals. This resulted in complete cure. The last time I saw the patient, a year ago, she was in excellent health and there was no sign of recurrence. A few weeks ago a similar case came to my attention. She is now under treatment and I hope to report similar results.

Carcinoma of the cervical canal produces marked enlargement, thickening and induration due to the intense infiltration. This type may extend toward the uterine cavity, cause obstruction of the internal os and result in pyometria. It invades the urinary bladder anteriorly as well as the rectum posteriorly, causing ulceration and the formation of vesicovaginal and rectovaginal fistulæ. Further, it may extend into the ureters with resulting hydronephrosis or pyonephrosis.

Carcinoma of the body of the uterus is as a rule of the adenomatous type and originates in the mucous membrane, either in the surface epithelium or in the tubular glands. It is the rarest type and occurs in women of advanced age and in those who have not borne children. It may be circumscribed or diffuse.

Uterine cancer is not confined in its development to the infiltration of the surrounding structures as it has been described, but it spreads through the lymphatics to structures more or less remote. Glandular involvement, in individuals past the climacteric, occurs later than cancer occurring in other parts of the body. However, in women under forty this is not true. The most malignant types are found in younger individuals. In my experience the youngest individual who came under my care was twenty-six.

ETIOLOGY BASED ON THEORIES

The etiology of a uterine cancer as well as of any other part is based upon theories only. Among some of the most important as to its development are: Virchow's theory, who believes that, while cancer is of epithelial origin, it is only through metaplasia of cell elements that

*Read before the Surgical Session, National Convention, Des Moines, 1929.

it originates; Cohnheim's theory that it develops from ungoverned embryonic cells. Ribbert believed the proliferation is due to loss of restraint of tissue tension. The microörganism theory raised much discussion but with no definite proof. At present there is practically unanimity in the view that in its beginning, cancer is distinctly a local condition.

Among the local predisposing causes the traumatic theory is the most substantial, therefore, careful investigation and prompt repair of lacerations after child-bearing and subsequent watchfulness are strongly recommended.

SYMPTOMS

The symptoms of uterine cancer may be spoken of as general and local. Very frequently we hear the term "early symptoms," but unfortunately, there are no characteristic nor early symptoms of this disease. When the patient first experiences indications of unusual disturbance and seeks the advice of the physician the disease is generally well advanced. What we should always bear in mind is the division of the symptoms of cancer into general and local. It is just as important to observe the face and general appearance of the patient as it is to inspect the uterus. Both constitutional and local symptoms are important but the local, of course, are the more significant.

The constitutional symptoms of cancer of the uterus depend upon disturbance in function of the vital forces of the body, due to the absorption of toxic material from the site of the disease. Not a single vital structure escapes. The nervous system suffers as well as the gastro-intestinal, the thermic, circulatory, metabolic, dynamic and excretory. The association of nervous disturbance with all pelvic lesions of women and especially in cancer is apparent. Women have an inherent fear and dread of cancer.

Gastro-intestinal disturbance is not marked in the early stages of the disease. Later when the toxemia becomes general the patient complains of anorexia, nausea and vomiting. Constipation is the rule. Loss of weight is a late symptom.

In most cases the rise in temperature is slight until late in the disease due to the absorption of the toxic material as well as to parametrial inflammation. As the disease progresses and profound asthenia occurs, the temperature may drop to subnormal.

Secondary anæmia is a constant symptom. Reduction of both hemoglobin and red cells is present; however, the leukocytes are always increased but not to a marked degree.

The skin may become yellow or lemon yellow quite early and as the disease advances the characteristic cachectic facies portray the concealed trouble.

As has just been stated, local symptoms are the most dependable in arriving at a correct diagnosis. In order of frequency and importance these local phenomena are hemorrhage, leukorrhea, pain, bladder and rectal irritability.

Irregular bleeding at or near the menopause should be regarded with suspicion. No normal structure ever functionates abnormally and the common belief that irregularities are to be expected at this time is unfounded and therefore dangerous. What we must remember is that the bleeding has no characteristic type. It may be slight, marked or profuse and continuous. Bleeding arising after the menopause is very suggestive of cancer and very rarely ever occurs in any other condition. It may be excited by irritation on examination, and bleeding after any form of local manipulation should put us on our guard.

The discharge at first is thin, watery or serosanguineous. Later it becomes tinged with blood. As the disease advances sloughing, ulceration and infection take place, and the discharge becomes purulent and foul.

Pain comes on late and only after the growth has invaded the surrounding structures, and involved the nerve trunks. When present it usually means that the condition is well advanced and hopeless. It is of a dull, aching, boring type, and is felt in the sides and back. At times it is referred to the breasts.

As infiltration, extension and involvement of the cervix and vaginal wall take place the bladder and rectum become involved. Frequent urination, dysuria, retention, constipation and rectal pain may be present. In advanced cases vesicovaginal and rectovaginal fistulæ are not uncommon.

DIAGNOSIS

While the symptoms just mentioned are valuable, they only cause us to suspect but not recognize the condition. Our diagnosis must be dependent upon further examination by inspection, palpation and microscopic findings. Diagnosis involves the recognition of cancer of the vaginal cervix, cancer of the cervical canal and that of the uterine body.

Fortunately, as it has been mentioned, about ninety per cent of uterine cancers originate in the vaginal portion of the cervix which is within reach of both sight and touch, and a diagnosis should be easy.

A careful inspection of the cervix should be carried out routinely. At an early stage the growth appears as a bluish nodule or a red, warty granular body projecting from the anterior or more frequently the posterior lip. This small growth progressively expands until the entire cervix is involved and later fills the whole vagina. The blood supply is choked off, sloughing or necrosis occurs, resulting in ulceration. The surface is usually covered with a grayish green film which, if swabbed away, reveals a characteristic reddish granular appearance.

On palpation we find that the granular proliferating mass is soft and friable, breaking off and bleeding on slight manipulation. The floor and edges are hard. A specimen should be excised for microscopic examination.

Carcinoma of the cervical canal in the early stages is difficult to detect by inspection. Upon palpation, however, the wall of the cervix is found hard and dense and if the finger can be forced through the os the characteristic pinkish gray, friable material may be disclosed.

The same holds true of carcinoma of the uterine body. Only by palpation may we be able to detect enlargement or softening of the uterus. Curettement and microscopic examination are the only means of a positive diagnosis.

PROGNOSIS

The prognosis of cancer of the uterus is bad. A favorable prognosis depends first, on early recognition of the disease, second, on prompt radical treatment.

TREATMENT

The treatment of carcinoma of the uterus may be divided into Radical and Palliative. However, since this is the age of preventive therapeutics I feel that the prevention of uterine cancer should be given due consideration. This in my opinion should consist in the education of both the public and the profession. Every woman should be taught that the slightest irregularity in her menstral function demands the advice of her physician and not the usual neighborhood old woman gossip. A systematic examination of all women approaching the menopause is the ideal course. On our part we should be made to recognize the value of the correction or eradication of all predisposing lesions by surgery. Cervical lacerations should be corrected by repair or amputation as the case demands.

Radical treatment is applicable to operable cases offering some hope of permanent cure. Unfortunately this type of case is in the minority due to the fact that the surgeon is not given the opportunity early. To determine whether the case is operable or inoperable is not an easy matter for the factors governing operability vary widely and therefore we can only depend upon general rules. Those cases coming under our observation relatively early with definite localization of the lesion, free mobility of the uterus without involvement of parametrium and glandular invasion, are considered operable.

In the more advanced cases, so-called inoperable, palliative treatment gives the best results. Cases of recurrence following operation should also be included. Palliative treatment aims to control the symptoms not only by using local agencies but also by instituting constitutional measures. The one symptom which requires relief is pain; and this can only be controlled by the administration of drugs. At first the pain is mild and can be taken care of by bromides or coal-tar preparations, such as salol, phenacetein, acetanilid and others, but as it advances the administration of morphine becomes necessary.

Let us bear in mind that some of these hopeless cases live entirely too long, therefore, their mental as well as their physical ills should be governed with sound judg-

ment. They should be kept out of bed as long as possible and encouraged to keep both their minds and bodies occupied.

Locally, the treatment may be stated in one word, radium. By the use of radium we are able to control the two most prominent symptoms, bleeding and discharge. Furthermore it relieves pain, retards the progress of the disease and has a favorable effect upon the general condition of the patient. Indeed, we have seen hopeless patients, who, after the use of radium, improve to such a degree as to be able to go about their daily affairs free from any discomfort. Radium has been denounced by some as dangerous. This is not the fault of the radium but of its user. First, if a small dose is used it stimulates the activity of the growth; and second if it is used too frequently and in large doses it causes destruction of the surrounding structures, causing necrosis of the bladder and rectal wall with following urinary and fecal fistulæ.

We are using radium not only as a palliative measure in inoperable cases but in all cases of carcinoma of the uterus preoperatively and postoperatively. 1,200 to 2,400 mghr. is used and repeated in four to six weeks for two to four doses.

In inoperable cases x-ray is used in combination with the radium, applying cross-fire x-ray over the lower abdomen and radium within the cervical canal.

55 E. Washington St.

Diagnosis and Treatment

ANORECTAL EXAMINATIONS AS AN AID TO DIAGNOSIS

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The area of the body most frequently neglected in a diagnostic examination is the anorectal region. Ocular, aural, nasopharyngeal, gynecological and genito-urinary examinations have become commonplaces of diagnosis, but many doctors still ignore what Dr. C. E. Blanchard calls "the postern gate of the human citadel."

An examination of the anorectal region will often disclose the predisposing cause in disturbances in which there are at least no subjective symptoms referred to that area. The anal region is supplied with an abundance of nerves, intimately connected with various spinal and sympathetic plexuses. Due to this diversified enervation, the reflexes set up by a disturbance in this region are numerous and far-reaching.

To illustrate this point let us consider a hypothetical case. Mr. X comes to the doctor complaining of constipation—says he does not have a feeling of satisfaction even when his bowels do move. He has headaches, is extremely nervous, irritable, discontented and never relaxes. The doctor prescribes a proper diet and gives treatment intended to relieve the constipation. There is some slight improvement but the headaches persist, the restlessness is still present and the patient still complains that he does not have a feeling of satisfaction with his bowel movements. In such a case an anorectal examination would undoubtedly disclose a spasmodic condition of the anal sphincter or sphincters causing the constipation mechanically and constantly sending out impulses setting up reflexes and producing the nervous symptoms. A divulsion of the sphincters would go a long way toward the cure of such a case.

Other conditions in the anal region causing reflexes are cryptitis—in which the reflexes are referred to the uterus causing dysmenorrhea, to the bladder causing dysuria, to the testicles or to the sacral region—and papillitis which causes a dull ache in the lumbar region.

While the rectal area is not as well supplied with nerves as the anal region and so does not set up reflexes so commonly, it does play a part in causing symptoms in other parts of the body. In cases of arthritis, for instance, when all other foci of infection have been eliminated there still remains the possibility of a proctocolitis. An examination of the rectum in patients who are anemic, emaciated and weak will often disclose a well-developed malignancy. Due to the poor nerve supply and the roominess of the rectum a carcinoma may develop to quite a size with little or no pain.

Finally, an examination of the anorectal region will disclose the presence of skin-tabs, clot-piles, internal hemorrhoids or polyps about which the patient has said nothing, either because they considered such conditions outside the scope of your therapy, or through a reluctance to undergo surgical treatment.

CONCLUSIONS

The importance of the anorectal region as a causative factor in disease is not sufficiently recognized. A more general recognition of this fact would result in the clearing up of many obscure cases.

1836 E. Allegheny Ave.

ENDOCRINOLOGY, THE BACKBONE OF DIAGNOSIS*

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RHEUMATISM

To show the value of endocrinology in diagnosis let me tell of a particular case. It was one of those distressing cases of rheumatism in which not only every joint, except perhaps the jaw, but seemingly every tissue was painful, and of course the slightest move was extremely painful, and even without movement there was continuous pain. The woman lived on aspirin—fifty grains per day a minimum. It had endured one and a half years when seen by me, in a woman of forty-one with two marriages and two children to her credit; and all of the usual—and much unusual medical treatment had been without beneficial result. Laboratory reports were uniformly negative as to infections of any sort.

Before discussing this case, let me sketch in the functions of the pituitary body, or enough for our purposes.

This organ, in the early evolutionary history was a "test organ" of certain fishes, testing the temperature and other qualities of the sea water as the fish swam into it, and affecting the other organs accordingly. When animal life left the sea and carried its gallon or two of sea with it as lymph, with the blood stream as a sort of gulf stream in that sea, it carried this test organ along for the purpose also of testing the purity, temperature and other conditions of this internal sea, and for affecting the other organs accordingly.

Naturally enough this organ is the first to be affected in atmospheric strains, which is why a "cold" appears first in the nose, the tissue of origin and nearest relation to this organ. Naturally enough, it suffers first and suffers most when the blood stream is polluted in any way—the reason that all infections, or practically all of them, begin with colds. Structurally the anterior half of this organ is derived from the tissue of the pharynx, related to the tonsillar ring, and there is still a sort of rat tail, or a trail of comet's dust, marking the line of its passage. It is around this anterior portion that the leukocytes gather in such numbers. The posterior half is no more than a dilatation of the central canal of the spinal cord, filled with the same neuroglia tissue that lines also that central canal. This tissue is now regarded generally as connective tissue; but if there is any situation where connective tissue would be more useless than in the central canal and this doubly-encased sella turcica, I should like to know where it would be. But also, this posterior pituitary body is credited with the formation of most, or all, of the cerebrospinal fluid, and is known to possess certain very important endocrine functions. Now, since it is—or corresponds in position with—the very first tissue to take form in the developing embryo, since it has these profound endocrine functions, since its pathology shows it to be of great significance both in form and in function, instead of waste tissue it should, I think, be regarded as perhaps the master tissue of the whole body. That is a new theory, and has no direct connection with our subject. Among the known functions of the central canal tissue are thermic and pain sensibility, and a relation to joints and to sex (see syringomyelia); and among the known functions of the posterior pituitary body are heat regulation, sugar metabolism, vagal-sympathetic equilibrium, relation to morphology, to sex functions, to sleep,

*Have you considered what you as an osteopathic physician may do to influence that dominating corporation of glands? Osteopathy fits into our reasoning at a variety of angles. See Dr. Tucker's other article in THE JOURNAL, April, 1929. —EDITOR.

to toxins, to joints. This is not all but it is enough for our purpose.

Now let us go over these again and note their relation with rheumatism. There is first of all the joints. There is then the relation with toxins—an undrained dental or other abscess, the exanthems, gonorrhea, etc. There is then the relation with atmospheric changes, too well known to require comment. There is then the relation with the sex cycle—the onset at menopause, sometimes at puberty, often from venereal infection, etc. There is also the matter of alimentary imbalance (grapefruit, in particular) through the vagus nerve and through the acid-alkali equilibrium. The relation of rheumatism to psychic strains is stressed by many writers, and is traceable through the connection of the pituitary body with the brain, as well as through the well-known toxic effects of emotional strain. Among other things, note the greatly heightened pain sensibility that occurs in this disease.

Now let us turn this about and approach from the angle of symptomatology. In rheumatism there is first of all the involvement of the joints, of symmetric joints, particularly of the extremities, and even of analogous joints of the upper and lower extremities; with a strong tendency to migrate from one joint to another. Now it is most obvious that when we have a symmetric event on two sides of the body it is necessary to refer to some central point for the explanation of it. When we find events that are not only symmetric as to two sides, but as between upper and lower extremities, it is necessary to refer to a more profound center for their explanation. As deep as we can go is to this same pituitary body and the central canal that is its extension. And as in akromegaly, syringomyelia and other affections involving this organ, we find similar or analogous conditions, we feel that we are on the right track or have struck the bull's eye. In reality this organ is the bull's eye of the body.

Approaching from the angle of etiology, then, we find rheumatism to be caused by such things as dental abscesses, where the toxins having no other avenue of escape are forced into the circulation, perhaps more constantly than from other situations. From these abscessed teeth to the joints is the journey; what is the route? From abscessed teeth or prostate or sinus or other situation, the first step is to the circulation, lymph, blood or both, since they intermingle. The distribution is general and no specific effect on joints, especially symmetric joints, is to be explained by a generally distributed toxin. Where does it go next? The next effect is on the blood-filtering or cleansing organs, and the detoxicating organs and functions: kidneys, skin, lymph glands, spleen, lungs, large intestines, any or all endocrine organs—but first the pituitary body, as sensory organ for such pollution, and right along with it the spleen, as blood-filtering organ. Of the rest, we quickly eliminate all but the endocrines, not that these may not be affected but that if affected they do not lead directly to rheumatism, but follow some other path. The pituitary and the spleen, however, are in direct line, and the detoxicating functions of the whole endocrine chain, especially the adrenals, are in less direct line. But when we strike the pituitary trail we again meet ourselves coming back, and realize that we are on the right path.

ASSOCIATED DISEASES

There is another approach that is worth making, that of the associated diseases. It has been stated for instance that rheumatism and chorea are very closely akin; so much so that they are found alternating, interchangeable, even co-existing. The reason for this has not been apparent. The reason is, however, clear enough from the endocrine standpoint. Chorea has all of the earmarks of a pituitary disturbance, but of almost the opposite type from rheumatism, I should say. They are as much akin as black and white, or as up and down—extremes of the same subject. So chorea and rheumatism are at opposite swings of the same pituitary body. But those opposite poles can come very close together, and may even at times get mixed up together as the functional flexibility of the organ dwindles.

Again, the frequency with which rheumatism follows the exanthems makes them almost associated diseases. Here we have a double route; (1) the initial infection and (2) the toxicosis from the exanthem—which is described as a true dermatosis of greater or lesser area, loading the system with toxins exactly as does a burn or other skin lesion.

Then there are neuritis, lumbago, sciatica, neuralgia, associated with rheumatism in that they frequently precede it. These are evidently due to direct nerve overflow from the strained endocrine function before it breaks down; just such an overflow as gives us a headache from an overloaded stomach; their location indicating the organ from which they come—brachial neuritis from the thyroid, sciatica from the gonads, lumbago from adrenals, spleen or gonads, and the cranial algias from the pituitary body —including dental neuralgia. These sensory disturbances are phenomena of the nervous system, while the rheumatism is a phenomenon of the endocrine system.

Menopause—or as it would be better called gonadopause—is quite frequently the occasion for an onset of rheumatism. It affects the whole endocrine chain, and of course including the pituitary body; and many are the diseases that arise at this time through the effect on others of these organs. But it is in women particularly that rheumatism is apt to occur, and we have the fact that the posterior pituitary body is relatively larger in women, is more subject to psychic and other shocks in women, and is much more closely related to the generative functions.

ANALYSIS OF A CASE

Now let us proceed to an analysis of this case of the woman of forty-one with two marriages and two children to her credit, with negative laboratory reports but a history of severe marital difficulties; the disease with onset at thirty-nine, of one and a half years' duration; menses still regular. We have excluded at the outset menopausal and infective origins, and have a possible psychic effect to deal with.

The menstrual history began at eleven, a year and a half too early, suggesting active gonads or a precocious pituitary. They were regular at thirty days, two days over the usual time, suggesting the very reverse, ovarian or pituitary laziness. The duration is three full and one scant day, with a tendency to skip-stop mode—that is, after five days off it was very likely to return again for a day. Something very peculiar about that pituitary body. The quantity was normal, there were no pains—and freedom from pain is not a good sign for the reason that nature does not intend to lose those precious ova which ripen once each four weeks. She does not intend menstruation. Menstruation is an abortion—an abortion of an unfertilized ovum, with all of the ceremonies of that process. It is not normal and nothing can make it normal. And to let go of those ova without a struggle indicates either a weakness in them—which we do not believe is the case here—or a lack of intention to hold, a weakness somewhere else—which on the whole we believe, taken with the other symptoms, to be in the pituitary body.

Put down, therefore, a normal or plus gonadal development and a minus posterior pituitary function. But why, with plus gonads do we find minus post-pituitary function in a woman? It is usually the other way. And in this woman the constitutional markings are decidedly post-pituitary; the stature is short, the hand and foot small and broadish, fingers tapering, forehead broad with high hair line, skin fair, eyes full—all post-pituitary markings.

So we get the clinical history; and there we find an achlorhydria and gastrica and gastric inflammation of the heavy phlegmonous type, like glue. Every bite of food led to emesis and pain. There is our clue. That points to an adrenal situation, with blood stagnant in the splanchnics. Following this clue, we get a history of a very weak heart, low blood pressure, anemia, severe attacks of flu and numerous other indications; and now examining for adrenal markings we find plentiful freckles, sandy hair, very blunt canines. Then we learn a thing that is curious—very curious in itself—namely, that the rheumatism has been better during the winter season, both times; but this, taken with the clinical history, clinches our diagnosis by its very pecularity; for during the winter the functional activity of the adrenals is naturally increased.

There then is the story—an adrenal system that is weak and throws the burden of its load on the pituitary body; a pituitary that is possibly normal, but may be a bit eccentric (we find pituitary situations in both of the children), and that in any case gives way under the double strain, especially when it is burdened with the

load of domestic emotional difficulty. No doubt it would be possible to go further into the matter and discover the probable cause of the adrenal difficulty, but though interesting it would be profitless, at least so far as this rheumatism is concerned, and until it is cleared up.

Granted the correctness of this endocrine analysis, just how does it help our therapy? The gastric situation has been cleared up by a dietary prescription of a medical attendant, who gave three meat balls per day and nothing else. Our problem is the arthritis, together with the cardiac situation and the emotional state, if possible. But any problem is easier if you feel that you have all of it before you and that there is not some unkown mysterious element that may trip you. I do not pretend that this analysis is complete, or that our knowledge of endocrinology is complete; but it goes far enough to lead to an adequate therapy; and far enough to show the value of endocrine analysis in diagnosis.

TREATMENT

The problem lies between the pituitary, the spleen and the adrenals, together with such attention as there is time for to the joints themselves—which in fact I left pretty much alone; and the emotional state as far as that can be reached. But with that history of splanchnic stagnation, I felt that the immediate strategic point was that stagnation. So I went first to the lumbar region. Correction of atlanto-occipital lesions and numerous upper dorsal lesions were made also.

Correction of the lumbar lesions was pretty well effected during the second week, and improvement was rapid from then on. I felt that I might take a trip to Europe and that when I returned I would find the patient still improving. In less than two months she was able to sit up and even to bear part of her weight on her feet. She was eating what she wanted, and was taking only a few grains of atophan. At the present time she is sitting up practically all day, free from pain, with no anodynes, sewing and walking with assistance to and from her bed.

COMMENT

Before leaving this case I want to present one more thought, this time in connection with the adrenals and their role in relation to the gastro-intestinal situation. The blood in the body normally lies in the great splanchnic blood reservoir, to be drawn upon according to need. When an emergency arises it is the function of the adrenals to constrict these vessels and mobilize as much blood as the situation demands; also to lead to the formation of more blood, to supply the wastage that nature has learned to expect in connection with fighting and exhaustion and cold. With a hypo-adrenalism, however, this blood would be deficient in quantity, would remain stagnant in the mucosa of the intestines and stomach, and lead to various consequences according to the abuses that might arise concurrently—in this case to the mucous colitis reaching even to the stomach, from which indeed may have come much of the toxin that played a large part in the pituitary exhaustion and the arthritis. If you will draw a picture of the intestinal vessels packed full of stagnant blood, flooding the whole lymphatic system with detritus, damming up the receptaculum chylæ and most likely choking the liver, you will get a picture of a vicious circle from which almost anything might follow.

The story is told that when, in 1831, Faraday discovered the laws of induction between currents and magnets, he was asked what is the use of this discovery? He replied: "What is the use of a child? It grows to be a man." Faraday's child is now the basis for all of the modern applications of electricity. I believe that endocrinology will grow to be a basis for diagnosis and that endocrinology and osteopathy together will create the therapeutics of the future.

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Hotel Woodward.

DEATH OF DR. FRED MOORE

Dr. Fred E. Moore, formerly president of the American Osteopathic Association, died at the American Hospital in Paris on Saturday, August 10. He was the second past president of the A.O.A. to pass away. He had been ill for some time.

Dr. Morris C. Augur has taken over Dr. Moore's practice at 12 Rue du Faubourg St. Honoré, Paris.

Special Articles

THE EURYTHMIC THEORY OF OSTEOPATHY

JOSEPH S. AMUSSEN, D.O.
Edited and Arranged by Mary L. LeClere, D.O.*

It has been said that osteopathy is an art as well as a science. If this is true then osteopathy must conform to the fundamental principles of art as truly as it does to the laws and principles of science. The law and principles of science with which osteopathy is directly concerned we have dealt with in our kinesthetic theory of osteopathy. The eurythmic theory of osteopathy which attempts to interpret osteopathy in terms of art is a necessary complement of the kinesthetic theory: it requires both theories to make a complete whole.

What are the fundamental laws and principles of all art to which osteopathy, as an art, must conform? Most important of all, rhythm. Rhythm forms the basis of all art and it is the rhythmic impulse in man that gives rise to all art. All nature is rhythmical. We breathe rhythmically and our hearts beat rhythmically. We walk, laugh, and weap rhythmically.

It was undoubtedly the innate feeling for rhythm that actuated the primitive man to dance. Of all the arts osteopathy is probably most closely related to the dance. The dance deals with kinesthetic feeling expressed *through* muscle and ligamentous tissues. Osteopathy deals with the feeling tone imparted *to* muscle and ligamentous tissue. The new school of dancing is concerned with freedom of expression in obedience to law. Osteopathy is founded upon the same cosmic principle.

Osteopathic technic should not fail to utilize this innate feeling for rhythm. The fundamental principles of rhythm are effort and repose, tension and relaxation. Each step in the dance naturally divides into two periods, motion and repose. The continuance of these two rhythmic periods produces the feeling of symmetry and joy.

As dancing deals with the joints and muscles, and the sensations arising from the expression of their motion, and through them expresses life, so does osteopathy by its principles of motion—tension and relaxation, equilibrium, opposition and adjustment—deal with the same mechanism according to the same principles, to affect the life processes, to correct the deficient or abnormal tissues and bring them into harmony with the law of life—freedom of expression in obedience to law.

"Music is but the transmigration into tone of the immemorial and world-embracing spirit of the dance." Music, like the dance, shapes itself into phrases—effort, tension, followed by rest. Poetry, music and the dance are very closely associated, in fact in the beginning were probably inseparable. The musician employs devices for imparting a sense of tension, concentration, and climax, then of relaxation, subsidence and relief. Osteopathic technic applies these same principles to the body—tension, climax, relaxation, and relief.

"Every musician is aware that music is not a random string of vivid sensations passing over like the clouds which have no wake. To his mind each phase is a consequence of that which went before and the necessary antecedent of that which follows. Just as each word in a line of poetry is by itself alone meaningless, so it is only in their connections and relations that sounds acquire esthetic value. A single tone may be delightful in its physical effect, but apart from its fellows it has no expression, no character.[1] So in osteopathic technic, each movement should lead up to the next and terminate in an accent of expression, coming back to its starting point. The osteopathic artist gets pleasure by the feeling of skill, and rhythm, and grace, and reasoned design of technic. The operator who just jerks is like the ragtime player.

Euphony is the natural graceful continuation of a word or phrase, note of music, or a movement in the dance to complete a phrase or act. We should apply the same principle in our technic—the movement should terminate gracefully, not with a jerk.

Greek statues express the same laws of life that are in all things—the great law of equilibrium and rhythm,

*Note: Dr. Amussen was killed in an automobile accident before he had an opportunity to criticize this paper, so I can only hope that I have presented his ideas in a manner that would be acceptable to him.
—Mary L. LeClere.

[1]The Education of a Music Lover by Edward Dickenson.

intelligent expression and harmony. The wonderful appeal of Greek sculpture is due to the glory expressed by the bodies, which glory is due to the tension, the tone and the elasticity, and also to the power of relaxation that is exhibited by the muscles and other tissues. The aim in bodily development is not only to attain the power to contract, but also to attain at the same time the power to relax the opposing muscles and to produce a harmony of action and conservation of energy. The joints to which the muscles attach exhibit perfect freedom.

Freedom of motion in the part—joint, muscle, sinew, skin, tissue and all, is the secret of life as depicted by great sculpture. This also is the aim of osteopathy.

When all the muscles are in healthy and cultivated tone and elasticity, then they are like harmonies of movement, like chords of physical harmony and vibrations in their actions, and all the body sings with them in physical joy. But let the muscles of a segment become contracted from a "lesion" or strain and lose this perfection of key, and its song is of inharmony, of distress and pain, and all its related parts respond in sympathy by the great symphony of the body disturbed. Osteopathy applies its skill to the lesioned tissue and afterwards osteopathic gymnasia can restore its function and strength.

Even from architecture the osteopathic artist may learn much of value to be applied to his art. A building, like any other work of art, should embody the principles of balance, rhythm, good proportion, climax, and harmony. As the sentence divides itself into freely balancing phrases and clauses, so the building divides itself with freely balancing units—porticoes, doors, projecting wings, or sometimes even the mere pleasing alternation of window and wall.

The curves and asymmetries of Greek architecture were esthetic in purpose; they were designed to avoid the inartistic effects produced by formed monotony. They introduced a suggestion of elasticity; they imparted to the structures the irregularity that characterizes organic growth. This elasticity gave to the structure rhythm and a sense of springing against gravity, and related it to the amplitude of motion that takes place in organic structures. It is this elastic quality that relates Greek architecture to the statues in Greek art and to the body and to osteopathy. Only in death is there absolute equilibrium. In the body equilibrium is maintained by constant action and reaction within the limits of motion of the parts. The principle of asymmetry was employed in Greek architecture in order to escape from absolute equilibrium. Life is a constant breaking and regaining of equilibrium. An osteopathic treatment should consist of balanced phases, tension and relaxation. But there should be variation to avoid the deadening effect of monotony.

Sculpture and the visual arts minister to the feelings through the eye, music through the nerve terminals of the ear, the dance through muscle and joint sensation, while osteopathy ministers to the feelings through the nerve terminals of the back. And the laws of harmony are the same in all the arts and in osteopathy. The movements of the osteopathic artist should be beautiful and harmonious for this art ministers to the feelings of muscular sense. The great principle of life expresses itself in terms of beauty, harmony and rhythm. The osteopath deals with this same law and must obey its principles in his practice.

OSTEOPATHY ONE HUNDRED YEARS AGO

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One hundred years ago in London a group of scientific medical men practiced and amplified a method of diagnosis and treatment which was identical in theory and practice with osteopathy. In fact, in the definition of their system, which I have copied in this article, whole paragraphs will appear so familiar to the modern osteopath that one might suspect that the work of Hazzard, Teale and Downing of this century and J. Evans Riadore, M.D., F.L.S., of the last century had been a product of the same source.

In defining the subject the past and the present schools do not differ, but it is in the method of treatment that the early school shows its limitations. Their simple manipulative technic lacks imagination and elasticity as I will show from their text. Had they known one or two modern specific manipulations it is safe to say that osteopathy would have grown to the proportions of a major system of healing in England. Then, perhaps, we should have been faced with the interesting possibilities of sending our young men from all the world to London to become manipulative physicians and to learn this specialty at its fountain head, where its traditions would stamp the students with its unique age-long hallmarks.

All that was known of osteopathy a century ago is found in a book which includes the subject of manipulative therapy, written by Dr. J. Evans Riadore. His full title, which sketches the subjects covered, is "A Treatise on Irritation of the Spinal Nerves as the Source of Nervousness, Indigestion, Functional and Organical Derangements of the Principal Organs of the Body, and on the Modifying Influence of Temperament and Habits of Man Over Disease, and their Importance as Regards Conducting Successfully the Treatment of the Latter; and on the Therapeutic Use of Water." It was published in London by J. Churchill, Princess Street, Soho, 1842.

This 300-page book sold in those days for eighty-one cents, and I bought it from a second-hand medical book store nearly a hundred years later for one dollar and six cents. Is this dollar's worth of medical history about to repeat itself today? A study of its contents shows that there is very little new under the well-known sun. In its well written introduction it explains the theory of true anatomic structure and anatomical spinal irritation in relation to the cause of disease. It then describes the various ways in which spinal nerves may be irritated, with the many causes, as fully and carefully enumerated as we ourselves know them. Each section of the cord and group of nerves is accurately described, and the effect of postural defects upon them explained. As was the custom of medical writers of that day moral and religious references are freely used, and the Creator usually held accountable when diagnosis ended abrutly. The subject of diet, even today the ugly stepchild in modern therapy, was developed from opinion rather than from fact. There were also popular and fashionable doctors in those days, and spas, fads and foods were famed by strange whimsies of chance. Dr. Riadore, not to be outdone in radical statements, timidly suggests that we "denticate" our food more thoroughly. That was almost as daring as he could be. But in chapter five he takes a reckless chance and holds forth on "The Injurious Consequences of Fixing the Attention to, or Watching any Particular Organ, and on the Advantages of Diverting the Mind." Part of his diagnostic methods, according to the popular theory of the day, also dwelt upon various temperaments. The sanguineous, the bilious or choleric, phlegmatic or serious, and the nervous temperaments, with their characteristic tendencies are given room, one feels, as a sop to the choleric book reviewer who could not bear to see the old order change.

Riadore, however, was not willing to lay down his life to support these old doctrines. The rest of the book is devoted to osteopathy under the name, Spinal Irritation, its causes and treatment fully outlined, and many detailed case records as examples in proof. One of the most interesting reports I have included in this article. A short treatise on hydrotherapy and colonic irrigations a la Shellberg complete the book's three hundred and five pages.

This book, as I say, is only part of an extensive literature on the subject of spinal manipulation as all of its contemporary texts show. Yet in the several years that I have been interested in tracing osteopathy in England I have not been able to find a book that antedates Riadore's,* though some references to cases quote opinion as far back as 1760. Riadore himself does not claim to have discovered the system of spinal manipulation, but he hopes that his book and his experiences have correlated all that is known on manual adjustment. He holds that the subject is not popularly accepted by the medical monarchs of his day because of their hidebound prejudice to admit modern thought to their medical equipment, even when the new is accompanied by absolute proof. Seemingly the Kingdom of Medicine is one of the few monarchial govern-

*When I quoted Riadore (Jour. Amer. Osteo. Assn.,) Dec., 1927, I quoted also the English Griffin Brothers (1834) and the American, Teale (1830), whose diagnosis included spinal tenderness whether he manipulated or not.—Ray G. Hulburt, D.O.

ments left that has successfully resisted all democratic theories.

This system of healing, nevertheless, seemed to have had many converts in the medical profession, and its life as an active therapeutic method is indicated in scientific literature for over forty years. We do not know just when it began to pick at the bed covers but its practical limitations are easily recognizable today. Its weakness, it must seem to us, lay in its restricted technic and the great discomfort which accompanied its application. Chiropractic suffers this same defect. There may have been other factors, social or political, favoring its decline as well, but the active opposition of the bombastic old school of medicine and its ruthless control of propaganda aided its decline more than its counterpart hurts us today. Doubtless a factor which helped induce its neglect was the use of morphine, unrestrictedly employed, and other pleasant pain-killers which quickly allayed symptoms and left one unmindful of the future. It was easier for the hard-worked physician to roll up a dozen pills of gum morphia and collect his fee than to carry on the hard work of spinal manipulation.[1] At the same time there were few people in those days who could afford the time to lie in Riadore's cradle bed with a spinal pad pressing against subluxated vertebræ and continue that awkward treatment for four or five months on end. It is doubtful, also, if the crude manual manipulation with its monotonous repetition of spinal pressure was other than irksome and tiring to the patient and physician alike.

Doubtless the secret of osteopathy's success in this century and its rather extended imitation have been due to the fact that Dr. Still first discovered a set of working principles that cured many diseases and then elaborated his technic to cure many more without bothering too much about hypothetical reasoning. People wanted permanent cures and cared little about doctrine. The English doctors elaborated a beautiful principle, today even quite flawless and exact, but they failed to develop a highly elastic technic. Many startling cures were made, but doubtless such successes are repeated by our imitators today. In all the case records that Riadore and others have left us great importance has been attached to a minute diagnosis and explanation of symptoms and causes, but they felt no need for a variation in their treatment. On the other hand, all of Dr. Still's teachings seen in his old lectures and in the practice of his earlier students emphasize adjustment, adjustment, adjustment from the occiput to the coccyx. He had faith in normal structure and had dozens of manipulative resources for adjusting bony and soft tissues. He held almost a contemptuous disregard for such neat explanations so emphasized by the English physicians of nearly one hundred years ago. What a combination the inventive genius of the scientist Still would have made with the scientific completeness of Riadore, the laboratory technician! Yet so different were their working hypotheses that it seems quite certain Dr. Still could never have heard of the British system that has finally disintegrated into what is generally known as bone setting. Doubtless this is another example of independent adaptations of similar theories.

"The spinal marrow," says Dr. Riadore, "and the roots of its nerves, like the brain, are enclosed in a strong bony case, showing that the Omniscient Creator regarded their protection from injury, together with their ganglions, to be of the utmost importance for the welfare of the being. It is in these ganglions, that the nervous influence of every part of the brain and spinal marrow combine, and hence convey nervous energy to the vital organs, in order that the secreting and assimilating organs may perform their functions. Thus all are rendered dependent upon one another to continue the life and health of the being. . . . Some anatomists have considered that the twenty-four bones and joints forming the spinal column, and the canal for enclosing the medulla spinalis and its membranes is too strongly fixed together to be dislocated, or to receive impressions of external or physical agents; but experience has amply proved the fallacy of this opinion; for the whole are liable to the same accidents and diseases as all of the bones and joints of the frame."

[1]The introductions of anesthesia and the headstrong eagerness to adapt all treatment to surgical procedure with its golden opportunities may have served to elbow aside the less spectacular technic of bloodless surgery.

Here is osteopathy's definition almost word for word as Dr. Still describes it fifty years later. Continuing: "When the spinal nerves are morbidly irritated from any cause, they prove prolific sources of disease, for the functions of the assimilating organs require the influence of the whole brain and spinal marrow through the ganglionic system of nerves; and if any organ is *deficiently supplied with nervous energy or of blood, its functions immediately, and sooner or later its structure, becomes deranged;* therefore, it is in vain to attempt to restore the digestive organs, for example, by means directed to them alone, when the cause of failure is in a distant part; consequently, we must try to give vigor to the central parts of the nervous system, in which the immediate causes exist. Instead, therefore, of drenching the poor stomach always with medicines, and teasing it with food for which it has no desire, according to the fancy of the medical attendant, or the fashion of the day, we may aid the return of its healthy functions by various collateral means."

Riadore suggests a theory (except in glandular therapy) new to me, that one organ with an altered function may cause deranged function in another: "It is but reasonable that the spine should be examined, since its nerves unite by ganglions with the cerebral nerves, to form that important circle of nervous energy, upon which depends every normal organic function throughout life; therefore, when any portion of this organic circle is morbidly affected, we should trace in our minds the origin and connection of the nerves of the part most inconveniencing to the patient, to which our attention is naturally directed, and take a comprehensive view of the symptoms, ere we can hope to make a correct diagnosis and pursue a successful plan of treatment. Although in health, all organs act harmoniously imperceptibly to us, yet whenever an organ is influenced by an irritated nerve, at its origin or termination, its regular function becomes disturbed, or in an active state of disease. Thus the function of one organ imperfectly performed may cause another organ to be affected, either to increase or modify the morbid action of our susceptible nature, particularly in females of delicate constitution, in whom the slightest interruption to the current nervous energy may engender causes destructive to health."

This clearly-defined conception of practice could be taught young manipulative physicians in our colleges and replace the usual muddy and qualified theories.

Here we meet old terms and a familiar definition, though explained uniquely: "These bones [deviating from the normal] are liable to be protruded a little above their fellows, making an elevated ridge, nominated by the late Dr. Harrison as incomplete luxation or subluxation. They may be detected by attending to the varying forms of the spinous processes; this irregularity in the height, distance, or lineal direction of particular vertebræ in respect to others is undoubtedly produced by elongation of the ligaments of the spine. . . . When Dr. Harrison published his opinion that the spinal column became occasionally incurvated in consequence of incomplete subluxation of the vertebræ, as he described the case, to arise from lax or elongated spinal ligaments, he was as much ridiculed for it as he was for the means he adopted to cure them. . . . Yet Celsus has noticed in his writings how easily the joints of the shoulder and lower jaw become dislocated, and all practitioners, since his time, have observed the same, and admitted the reason to be elongation of the ligaments, and consequently their lax state favoring partial or complete luxation of those joints, as occurs in those of the spinal column under certain circumstances; for the joints of the spine, like others of the frame, have their capsular ligaments, tendinous cords, and membraneous expansions for their firm support, to this its varied motion is attached, and not immediately to the vertebra; hence luxation by the action of the muscles in weakly habits by overstretching it at some vertebra which gradually slides out of its place by the continual tendency of every action of the muscle attached over that vertebra, and similarly extending to others, or a certain number at the same time. This fibrous articulating structure is ever very slow to recover its tone."

He shrewdly guesses a cause for spinal pain in rheumatism: "Rheumatism probably institutes spinal irritation by one of its forms of attack; inflammatory, by causing the intervertebral substance to swell together with vertebra

and its ligaments, and probably extending to the spinal theca, thus compressing the spinal cord, and impeding the transit of its nerves and their energy; consequently occasioning various sensations, such as heat, cold, numbness, loss of feeling and motion of the limbs, or paraplegia of the upper or lower extremities."

Traction of the spine, seemingly, had been practiced to cure disease long before specific lesions were isolated and corrected. Riadore quotes freely the manipulative successes of other physicians and gives his criticism and approval: "Dr. Chessher's plan of stretching the spine, from one to three inches, which is very readily done, proves that bony union is not a usual attendant upon these cases, and that ligaments are elastic. Dr. Chessher's plan was by some means praised at the time; certainly his cures could never have justified the commendation that was awarded him, because the good that was derived from extension was lost by the relaxation that was allowed to follow. Dr. Chessher's plan is still adopted by some practitioners, more or less modified; it consists in wearing a steel collar, which conveys the weight of the head upon the hips, and which presses below the loins by means of various steel plates; thus they are kept in the recumbent posture for some hours, and stretched by pulleys attached to the neck collar alone, suspended from the ceiling of the room, just allowing the toes slightly to support the body on the ground. Thus the patients were treated daily by alternating extension and relaxing the ligaments of the spine, and allowing the patients to walk. The cause is never suspected to be in the spine, and the latter is never examined, the subluxated vertebra is never replaced in its original lineal direction, though easily effected in the first instance, and in all cases may in time be insured and quickly to a degree sufficiently to prevent the spinal cord or a nerve being unduly pressed at its exit, to cause constitutional or local irritation in some organ to which the irritated nerves are distributed." Dr. Still experimented with such various methods of traction and swinging. McManis, doubtless, had this technic in mind when he built his table.

"When one vertebra forms a slight exception in the regularity of the spinal line, either by height or distance from its fellow, a serious train of nervous symptoms may supervene that are not particularly distinguishable from those arising from other causes; consequently are attributed to any other source, whilst the true cause is wholly overlooked and neglected.

"The incipient stage can only be detected by a practitioner having acquired, by frequent opportunities of examining such cases, the nice and discriminating eye and touch to detect, readily, any abnormal condition of the spinous processes, as regard their relative height and exact distances from one another; disturbing the beauty of the spinal line and the delightful sense of health and vigor, by the consequent pressure upon some portion of the spinal marrow or upon the exit of some of the numerous pairs of nerves that arise from it, to communicate power of feeling and voluntary motion of the limbs and muscles of the trunk and head. These nerves, in conjunction with the ganglions and the great sympathetic nerve, supply the sanguiferous system and the thoracic and abdominal viscera with the principal share of their nervous influence; hence the importance of a healthy disposition of the spine to the well-being of the individual. . . . These subluxations are frequently brought on, in the first instance, by overaction of the muscles and ligaments, by external violence, or strains by dancing, jumping, wrestling, hunting, or by exposure to heat and cold, rheumatism, etc. The structure of the vertebræ-intervertebral substance of the spine, and its surrounding membrane, is equally subject with other parts of the body, to irritation and inflammatory action, either in the acute or chronic form."

Though he approves of light traction for some diseases, he thinks some lesions "cannot be cured without securing perfect rest of the spine, which can only be effected by keeping the patient within a properly constructed shield, in the horizontal position."

Riadore's manipulative technic otherwise was limited to firm pressure on the lesioned spine with the patient prone. This passive treatment later manipulative physicians know had great virtue. The deep, firm pressure against which the patient exerted rhythmic inspirations over fifteen to twenty minutes of fixation would adjust all rib lesions and most vertebral. Whether he was tempted to more active adjustment is hardly likely as his book indicates a speculative, rather than experimental scientist. Riadore's weakness lay in his resourceless technic which could not support his splendid scientific theories.

The habit of ridiculing Still gained popularity and momentum during the unscientific age of medical physiology when his thousands of successes were explained on no other grounds than as faith cures and magnetic healing. Dr. Still, nevertheless, found ways of curing or relieving pain solely by manipulation and adjustment, therefore osteopathy's longevity is due to the enthusiasm of its cured patients who were more interested in their own good health than in Dr. Morris Fishbein's reason why they should not recover.

THE STRANGE CASE OF SARAH HAWKES

Dr. Riadore has carefully analyzed this physical tragedy over the three long years of Sarah's treatment until the day she was cured. In all he has written an intimate and exhaustive description of ten pages, of which I copy the bare details.

"November, 1831.—Sarah Hawkes, in the 14th year of her age, is small and of delicate constitution. She is afflicted with a most extraordinary contortion of figure, amounting to almost the highest degree of deformity. The inferior extremities, which have almost wholly lost the power of motion, have their sensibility morbidly increased. The toes are turned inwards, and press upon the soles of the feet, with such firmness, that they cannot be moved, even by considerable force; the nails have not been properly cut from the commencement of the ailment, and not at all for these last three months, in consequence of her being unable to bear the handling of them for that purpose. The hip, the knee, and the ankle-joints are stiff and immovable; the knees and the ankles resting firmly upon each other respectively; the right arm is lodged between the thighs, with the hand turned upwards; in this manner it has been confined during the last two years. Her trunk and lower extremities are retroverted to such a degree, that the feet rise above the left shoulder, and can be there laid hold of by the patient with her left hand. The fore part of the trunk and the inferior extremities describe together more than three-quarters of a circle. The fore part of the crest of the right ilium actually passes five or six inches under the sternum. The right buttock is forced under the scapula of the same side. The middle of the spinal column presents the shape of a horseshoe, with the fore part of the shoe slanting upwards, and the back part turned into the right flank. In this strange and distressing position the patient is obliged constantly to remain; having lived, for the last two years, entirely upon milk and the pulpy parts of fruit, either fresh or dry. The pulse is feeble; appetite languid, and respiration always difficult. . . . She herself accounts for the origin of this distortion from the circumstance of having received on the neck, from the fist of another person, a blow so violent in nature as to drive her over a form, when she fell down in a fainting fit. On recovering her senses and attempting to eat her dinner, she was alarmed at finding a difficulty in swallowing, and by perceiving an unusual lump in her throat, both of which still remain.

"In a little more than a week after the violence alluded to, five or six fits of a similar nature were experienced. Soon after the first she had pains, attended with cold and heat in the loins, and lameness in the right leg."

It is enough for us moderns to know that the beginning of the cure dated definitely from about the third month of treatment when one day he applied a strong and steady traction to the cervicals and adjusted the "lower cervical" which, he said, had been removed so far from the normal line by the "blow of another woman's fist." The most extraordinary series of improvements followed this adjustment and spinal traction. The adjustment was accompanied by loud pops.

The horrible distortion to the torso was soon relieved and he was able to adjust Sarah with his pressure technic over the dorsal and also by means of the cradle. In this he put the child, possibly with slight traction, in a shield which fitted around the body. He then inserted pads against the posterially lesioned vertebræ and when the relaxation was complete the pressure of the child lying

against the pads repeated his ordinary pressure technic. The gist of the whole treatment is, as we osteopaths see it today, the correction of tissue, bony and soft, from the occiput to the coccyx.

From the evidence found in Dr. Riadore's book we are certain that the system we practice today as osteopathy was known in its theoretical form one hundred years ago, and practiced with a high degree of success. Hardly a step in this carefully wrought-out theory has been altered by the modern osteopaths. Our own contribution to osteopathy in its American origin is a splendidly formulated technic of great resourcefulnes and elasticity. Perhaps members of Dr. Still's family or one or two of our oldest graduates can tell us whether any knowledge exisited between these two theories almost identically parallel, or whether, as we prefer to believe, osteopathy was developed by Dr. Still independently of the old technicians of one hundred years ago.

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IN-MO-RAY THERAPY (PASQUE)

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Thirty-one years ago William James Herdman, professor of Neurology and Electratherapeutics in the University of Michigan, wrote, "The intimate relationship existing between electricity and magnetism, the inseparableness of their phenomena, makes it more than probable that when electric energy is operating, magnetic stress must be credited with a portion of the work accomplished, and vice versa. If the properties of a molecule depend upon the arrangement of the atoms that compose it as much as they do on the kind of matter, it would be strange if lines of magnetic stress had no influence whatever on the rate of change in life processes."

Dr. Herdman's work with magnetic stresses on animals showed a tremendous influence on the growth of young rats and pigs, even though his knowledge and application of magnetic forces were necessarily limited. Undoubtedly, the development and refinement of other electric devices and the then very limited knowledge of the electron-atomic structure of matter obscured this important work for the time being. The unanimous agreement of the best minds in physical science on the electro-magnetic origin and constitution of all matter, as well as the very unusual beneficial clinical results obtained through the use of scientifically modified magnetic stresses brings this proposition, however, to the fore again and makes it, to my way of thinking, a most important branch of constructive healing. If, as science teaches us, it is a fact that magnetic stresses diverting a flow of free electrons from their path, influencing their motion, changing their energy emanation and all matter, living as well as inorganic, are merely an organized aggregation of such electrons or electrical changes, then it must be reasonable that changes in the normally existing magnetic environment must also cause changes in the rhythm and the energy exchange of living organisms.

Since 1898 a number of magnetic appliances for therapeutic purposes have made their appearances, none of which, however, were destined to leave a permanent mark in the history of the healing art. The tenets advanced by Dr. Herdman have, however, recently been so frequently repeated and enlarged upon by scientists of considerable standing that it behooves the electrotherapist who wishes to be informed on modern opinions to consider these views seriously. If there is a logical basis for the therapeutic uses of electrical currents and light, there must also be a reasonable basis for the use of magnetic fluxes for the same purposes. Any electrical currents transversing tissues or any quantity of light impinging upon the surface of the body must, because of their electromagnetic nature, change the magnetic equilibrium existing in the molecular structure of the body.

Hence my mind was in a receptive mood when I first heard of the experimental work being done with specially modified magnetic stresses by Professor Muttkowski at the University of Detroit. The conclusions of this work showed that unicellular organisms, such as Paramecia, when radiated for prolonged terms, were imbued with a greatly increased capacity to resist death. The theories or explanation advanced by E. Pasque, the originator of this method and apparati, were rather interesting and appealed to my imagination.

"If such energies are applied to the centers of enervation and the glands of internal secretion," said he, "the result will be, not a stimulation as is produced by currents and light, but such organs or nerve centers will assume greater functional energy."

Every osteopathic physician will see at once that this would be very near to the realization of his fondest dreams. The science and practice of osteopathy has taught us the importance of correct enervation and the science of endocrinology, even though still in its infancy, gives us enough information to also appreciate the importance of correct glandular function. If, therefore, this particular magnetic energy or flux is capable of increasing or correcting these two important functional activities, we should have a most important and valuable addition to our osteopathic work.

At the time of making my first investigations on this new therapeutic agent, called In-mo-ray therapy (Pasque), I found that it had already been in use some three years and was highly recommended by a number of prominent physicians of good standing. Having at that time quite a number of rather worrisome cases on my hands, I decided to put them under this treatment. The results obtained will be rather obvious from a perusal of the following case descriptions.

A word about the technic will be given before the case reports are reviewed. The main object to be accomplished with In-mo-ray therapy is a perfect balance of the endocrine chain. Regardless of the symptoms, there is one main object to be accomplished: An endocrine balance. Many authorities agree that when the ductless glands function normally there is balanced electrochemistry and normal function.

There are two modes of treatment: (1) Specific radiation; (2) general saturation. Specific radiation is a direct application of the generators to the specific glands involved; general saturation is given as a routine to every patient, no matter what his condition may be. I have found it advisable to prescribe heat treatment or mild diathermy for

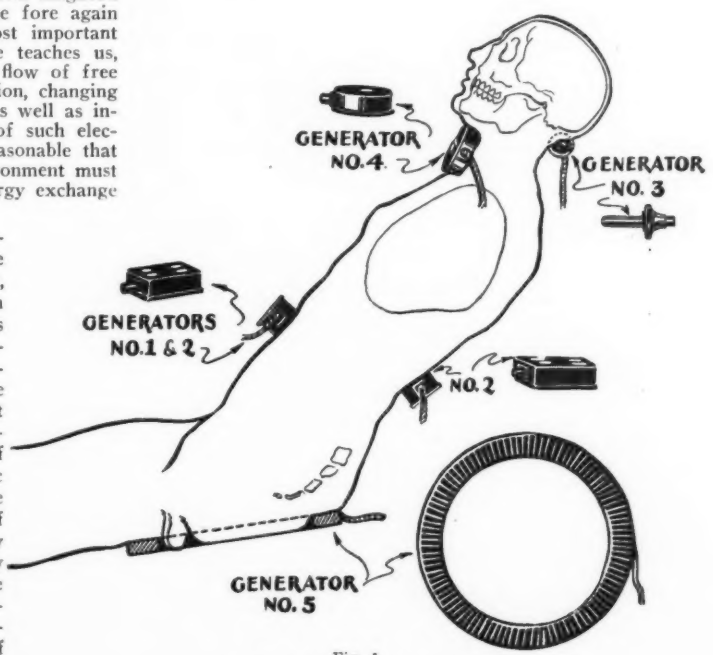

Fig. 1
General Saturation Treatment

about 10 minutes over the pelvic region preceding In-mo-ray. The purpose of the heat treatment to the pelvis is to bring about as much blood circulation as possible into the most vital organs. It must be remembered that the blood carries the available oxygen necessary for all metabolic exchanges and the more of this we can bring to play into the vital organs the greater will be the electro-chemical action from the In-mo-ray radiations. The accompanying illustrations will give a clearer idea of the mode of application of the various generators.

CASE REPORT NO. 1

The patient, a man twenty-nine years old, married and the father of two healthy children of three years and fifteen months respectively, gives a negative family history. He is a machinist. About eighteen months ago he developed a pain in the rectum and noticed blood in the stool; and at about that time there were periodic spells of diarrhea with protracted weakness. This condition existed about six months before he consulted a physician, who, after examination, decided that the patient was afflicted with a rectal fistula. An operation was recommended and performed. The patient was relieved of the severe pains he had been experiencing in the rectum, but the weakness and attacks of diarrhea continued with the usual amount of bleeding. An examination was made again by his surgeon, who pronounced the operation successful and told the patient not to worry. Six months had elapsed since the operation when the patient consulted me. His appearance when I first saw him was one of a very sick person. He was extremely pale and had a nervous, anxious expression. After a careful physical and laboratory examination which included complete gastro-intestinal roentgenograms, urine, fecal, blood, and proctoscopic analyses, a diagnosis of tubercular gastro-enteritis was made. Treatment was instituted at once and the following technic of the In-mo-ray was prescribed:

General saturation of all the glands for 15 minutes and specific radiation as follows: The No. 5 generator was placed over his head so that the pituitary gland was approximately within the cross-fire radius of the generator. (Time, 5 minutes). No. 4 generator over the fourth dorsal, No. 1 over the eighth dorsal, No. 2 over the eleventh dorsal. (Time, 15 minutes). Then a second application as follows: No. 1 directly over the liver, No. 2 over the spleen, No. 4 over the pancreas or epigastrium. (Time, 15 minutes). Osteopathic treatment and carbon arc ultraviolet exposure of ten minutes on each side of the body were also given.

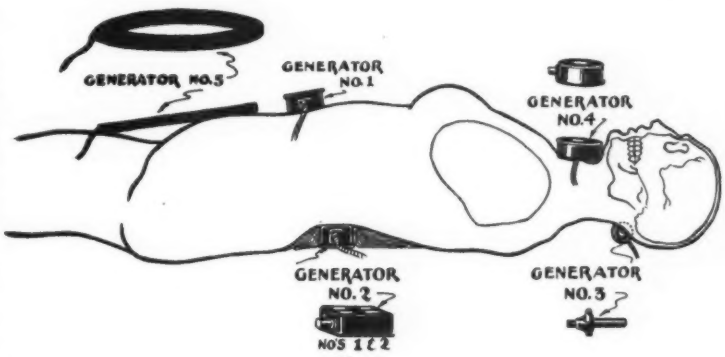

Fig. 2

Results after two months treatment: Gain in weight, 11 pounds; increase in blood count from 1,700,050 to 3,675,200; no further bleeding; normal appetite and complete recovery of normal strength and ability to work at his trade as a machinist three days a week. He weighed 190 pounds before he was taken sick and now weighs 161 pounds.

CASE NO. 2

The patient, a young woman nineteen years old, presented a typical case of deficient activity of the pituitary gland characterized by a marked tendency to obesity, especially about the face (moon type), the breast, abdomen and thighs, with pads of fat over the clavicles and under the arms. Absence of menses pointed to hypopituitarism. When I first saw this patient she was suffering with an acute attack of dementia præcox characterized by delusions, attacks of depression and exaltation. The dementia had developed very acutely and the family was alarmed. I concluded that it was a case of Frolich's syndrome and that the mental storm was due to the deficiency of glandular secretion. In-mo-ray therapy was instituted daily for two months as follows:

No. 1 generator was placed over the forehead covering anterior pituitary, No. 5 directly under the seventh cervical, No. 2 over the adrenals, No. 3 intrarectal, No. 4 over the ovarian region. (Time, 30 minutes). After fifteen days' treatment the patient had a normal menstrual period—the first she had ever experienced. The mental symptoms cleared in one week so that she was absolutely normal. The treatment so far has been taken over a period of four months; two further menstrual periods have occurred in due time, and there has been an increase in height of an inch and a half and a slight development of pubic and axilla hair.

Fig. 3

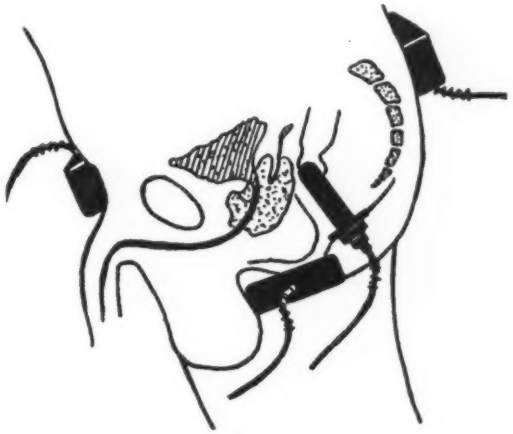
Fig. 4

CASE NO. 3

A woman of thirty, mother of an eight-year-old boy, gives a negative family history. After a normal childhood she developed severe attacks of epilepsy at the age of seventeen. There were as many as thirty convulsions a day. Many physicians were consulted and all known medical treatment, including luminal, had been tried. Serum injections, to the extent of sixty injections, had been the most recently tried cure. In-mo-ray therapy was given as follows:

General saturation every other day for two weeks. Specific radiation as follows: No. 1 and No. 2 generators were placed parallel with the spine on each side of the neck so that their radiations covered the entire cervical region. No. 4 was placed just below the seventh cervical, No. 5 so

as to cover the sacral nerve completely, and No. 3 intravaginal. (Time, 25 minutes, 3 days per week).

The results of the treatment are daily general improvement and complete fredom from convulsions after six weeks of radiation.

SUMMARY

The three cases just reported merely illustrate the variety of diseases successfully treated where ordinary methods have failed. A countless number of average cases have been treated very successfully as an adjunct to other proved and accepted methods with a marked increase in speedy recoveries. While I do not profess to be able to discuss the scientific aspects of this energy and its effects on bodily function from the angle of the physicist, I can voice the following assertions:

It is demonstrable and well known that magnetic fields will penetrate any substance. Ordinary insulators of electrical currents do not resist the penetration of magnetic fields nor diminish their force. It is therefore possible to bring a field of a known active range into proximinity with any organ in the body. The lines of force of this field will, therefore, act directly upon the molecular motion in any cell group, which we wish to influence to greater activity or oxidation. Many attempts in the past to induce physiological changes, which would have therapeutic value, have failed because of insufficient knowledge of the subject and crude apparati to work with. I have found that stimulating the endocrines by magnetic energies, as produced by Pasque's In-mo-ray therapy, has given me constructive results which have a lasting, cumulative, beneficial effect on the patient, such as to my knowledge is not possible through other means.

From the clinical standpoint the cases mentioned above have shown consistent and lasting improvement where this seemed impossible, or at least dubious, with my other available methods. Cases which might be expected to respond to osteopathy or other forms of electrotherapy show when placed on In-mo-ray therapy, either exclusively or in conjunction with the methods just mentioned, a pronounced improvement and an exceptional increase of vital strength, relief from pain and a general feeling of well being.

I feel that every osteopathic physician who is doing electro-therapeutic work or is contemplating doing so should familiarize himself with this work, and it is with this end in view that I have consented to publish the subject.

424 South Crawford Ave.

American Osteopathic Society of Proctology

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FOODS FOR THE PROCTOLOGIC PATIENT

EUGENE F. PELLETTE, D.O.
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No treatment of rectal disease is complete which leaves out instructions as to the patient's diet. Particularly is this so in pruritis ani, but it is also true in all other rectal diseases. Patients who are in earnest about ridding themselves of these conditions will generally cooperate with the doctor by heeding dietetic instructions.

There has been a great deal written on foods, yet so much of it is contradictory that one hardly knows what to believe. We seem to be at the threshold of dietetics. It is discouraging to find so little agreement among accredited investigators. In fact, seldom do two physicians agree about food, and people needing health are confused and disgusted with all dietetic advice.

Many physicians of wider experience than mine have also used and approved the ideas regarding food which I shall give in this paper and which I have used in my practice during the past twenty years. For many years I have divided foods into two main classes—acid-forming and alkali-forming.

Acid-forming foods eaten to excess, or to the exclusion of alkali-forming foods, help to cause most rectal diseases, as well as many other disorders of the body. Acid-forming foods are those which, when digested and oxidized in the body, yield the several acid residues, and consist principally of the following:

Sweets—Such as sugar, syrup, candy, jellies, jams, prunes, raisins, dates, preserves, etc.

Starches—Such as breads, most of the cereals, the ripened, matured grains—rice, corn, wheat, oats, barley, etc.; dry beans and peas, potatoes, tapioca, Hubbard squash and bananas.

Proteins—Meats, eggs, nuts, sea foods, etc.

Alkali-forming foods are those which yield the alkaline residues, and consist of the *light acid and sub-acid fruits* (oranges, lemons, grapes, grapefruit, pears, peaches, apples, apricots, pineapples, tomatoes, cherries); *the non-starchy vegetables* (carrots, onions, turnips, cabbage, cauliflower, radishes, green peas, string beans, green corn, and all the leafy vegetables, such as lettuce, spinach, greens, celery, asparagus); and *dairy products* (milk, cream, buttermilk, smearcase cheese, etc.). In short, fruits, green vegetables and dairy products.

Some authorities claim that all fruits and all vegetables without exception, are alkaline, and that baked potatoes and bananas are mildly alkaline. These are what I call borderline foods, and unless digestion is normal they might have an acid-producing effect.

These alkali-forming foods are the healthful foods, and less apt to cause trouble either in the rectum or elsewhere. Most people think that if food does not cause some digestive disturbance, such as nausea, vomiting, colic, it is suitable. They do not know that certain foods may cause remote symptoms or disturbances, without symptoms of indigestion,—yet this is exactly what occurs in most cases of intestinal indigestion and putrefaction.

In using these food classifications we are assuming that digestion is normal. As a matter of fact, in most rectal cases there will be impaired digestion which might cause some alkali foods to produce acidity and toxemia.

CONSTIPATION

Concentrated foods—those without sufficient residue and bulk help to cause constipation in those predisposed, and constipation undoubtedly helps cause many lower bowel diseases, such as internal hemorrhoids, external hemorrhoids, proctitis, colitis, enlarged crypts, elongated papillæ, fissure, and fistula. Dry, hard stools will scratch and irritate the rectum, causing ulcers, enlarged papillæ, etc.; also, overstretching the anus and tearing the tender mucosa, causing fissure. Straining at stool will engorge the parts with blood and bring down hemorrhoids, and it is probably one of the most frequent causes. Also, physics irritate the bowel and are apt to cause straining at stool with resultant hemorrhoids.

The retained feces may cause putrefaction and a consequent intestinal infection, with abscesses and resultant fistula.

Acid fermentation of food, with absorption of these acids in the lower bowel, seems to be the main cause of pruritis ani. These acids absorb from the bowel contents and form channels under the rectal mucosa, and even under the integument around the verge, and the consequent "sweating" of these acid secretions irritates the sensory nerves around those parts, causing a severe itching. Clinical experience proves that this class of patients invariably live largely on acid-forming foods, and that after changing their diet and living a few weeks or months on alkali-forming foods the pruritis leaves. Acid-forming foods produce an acidosis of the whole body, of course, but we can also develop an acidosis by fasting.

Food decomposition, with its consequent toxemia, undoubtedly plays an important part in causing colitis, as well as proctitis, and these two conditions are a forerunner of most of the other rectal abnormalities.

Eating to excess of catarrh-producing foods, which consists of not only the decidedly starchy foods and sweets, but also of fats and dairy products, will help to cause colitis. Notice that I said to excess. The cure is obvious. Merely take the patient off catarrh-producing foods, and with colonic irrigation to wash out the offending material and mucus, nature cures this disease.

It is probable that foods, in wrong combination, or of the wrong kind, are one of the most important factors in the causation of rectal diseases. People are governed

neither by animal instincts nor by reason or intelligence in what they eat, but have an abnormal craving for the most concentrated and stimulating foods. Most people live on the acid-producing foods—meat, eggs, starches and sweets, and care comparatively little for potentially alkaline foods, such as leafy vegetables, fruits, etc. In the average sick person's diet, fruits and vegetables, if eaten at all, play a minor part.

If the greatest factor in the cause of rectal disease is improper diet, then to remove the cause we must regulate the patient's diet, or the cause still exists to bring on a return of symptoms.

My instructions to the patient are to eat at least four times as much of alkali-producing foods as of the acid-producing—four to one—and I have written instructions which I hand to each patient, giving the lists of the acid-forming and alkali-forming foods which I explain to them so that they understand, even if they do not study it. Ordinarily, I do not hold down to any hard and fast rules in these cases. In some obstinate cases we must be more particular. For instance, in severe colitis I am sometimes compelled to fast the patient for a week or two, or even three, then feed only light, juicy fruits. In case the patient cannot tolerate fruits, as sometimes happens on account of resultant discomfort, jello, malted milk and non-acid fruits are given. Next come non-starchy vegetables. I never allow eggs, meat, starch or sweets, and but very little of the dairy products in severe colitis cases.

The diet in severe pruritis ani cases is almost the same—no decided starches, no sweets, meat, eggs or pastries, just light, juicy fruits, non-starchy vegetables and dairy products.

If patients are constipated, as they are in nearly all cases, I cut down on sweet milk, as it is binding. Cheese also is very constipating. If digestion is very much impaired, the patient can't even eat raw apples or other raw fruits or raw vegetables, as they are more constipating and harder to digest than the cooked. Each patient is a law unto himself, with individual idiosyncrasies, so that the diet must suit the patient as well as the disease. Some patients cannot tolerate acid fruits on account of stomach irritation and inability to convert these foods into alkaline products.

If decided starch is eaten at all, it should be in the form of whole grains, which are less acid-forming and more laxative. Jams, jellies, preserves, also cocoa and chocolate are taboo, and sugar in tea or coffee should be reduced, and little, if any, sweets allowed.

Canned fruits should be those put up in water—not syrup. Alcoholic beverages aggravate rectal conditions tremendously, I have found.

Blanchard includes all root vegetables as acid-forming, but I do not agree with him, as carrots, turnips, beets, etc., are not decidedly starchy. He also includes peas, beans, as starchy, but green beans and green peas and green corn are not decidedly starchy. It is not till they become dry and mature that they are decidedly starchy. I believe there are only three or four decidedly starchy vegetables—potatoes, both sweet and common, dry peas and beans, Hubbard squash, and possibly parsnips. All other vegetables are classed as non-starchy.

Very much cream causes autotoxemia, which usually goes along with acidosis; and we call the two acidemia.

Proper food combinations should be followed, and this means especially that meat should not be eaten with starch, starch should not be eaten with meat or acid fruits, and acid fruits should not be eaten with vegetables or starch. We are not so particular about this, except in severe cases, when I usually advise fruit only for breakfast, non-starchy vegetables for dinner, and fruit only again for supper—this regime for a limited time.

Condiments, tobacco and vinegar should all be taboo for proctologic cases, if the patient is to get well and stay well.

Bran, while it helps some cases of constipation, is frequently overdone, and I don't encourage its use very much.

No eating between meals, moderate amounts at each meal, early suppers, and right combinations of food, properly cooked (not fried) with at least four times as much of the alkali-forming as of acid-forming foods, and you have it about all, as far as food is concerned.

People's Bank Bldg.

Physiotherapy

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HIGH FREQUENCY CURRENTS IN DISEASES OF THE KIDNEY AND GENITO-URINARY SYSTEM

Article XXIII

THE KIDNEY

In discussing the technic for treatment of kidney disease it seems impossible to give it any proper consideration without first digressing from the methods of treatment to a consideration of the reasons for the treatment. Obviously this means a brief review of the pathological physiology in order to establish a basis for treatment to follow.

Whenever the diagnosis of kidney disease is made, to many it means but the beginning of the end. And when we contemplate the therapy that is often advised we do not wonder that the prognostic outlook is grave, or "the grave." In kidney diseases the professional tendency has been to treat them nearly all alike; namely, prescribing the same diet as a milk diet, or rest in bed, or a flooding of the kidneys by the ingestion of large amounts of water—a procedure which is often disastrous.

To treat kidney disease properly the various types must be carefully differentiated, and after making a differential diagnosis we can, by selecting the proper procedures in medical diathermia, bring to our aid one of the most helpful means of therapy yet discovered in combating kidney disease.

The purpose of the kidney is a dual one. It is supposed to eliminate certain end products which are brought to it through the blood stream. These end products have no further value to the system, and if retained they act as poisons. As these end-products, the nitrogen compounds and the various urinary solids, must be eliminated in solution we find that the kidney must also furnish the water for this purpose.

For this dual purpose, the elimination of the end-products and furnishing of water for the necessary solution, we also find that the kidney has a dual apparatus. One apparatus consists of the vascular system as functionally represented by the glomeruli, and it has to do with elimination of nitrogenous compounds and furnishing of water supply. The other apparatus is functionally represented by the tubular system, which system attends to elimination of hippuric acid and the various inorganic salts —especially the chlorides. When the glomeruli or vascular system is diseased we call the diseased condition nephritis and when the tubular system is involved we speak of the disease as nephrosis.

It is evident that good therapy must take into consideration the dual systems of the kidney. What is good treatment for one is not of necessity good for the other.

We know that the most common cause of nephritis, directly or indirectly, is infection. Accompanying or following a tonsillitis, scarlet fever or other general infections we may have a nephritis. The same is true with an abscess anywhere in the body, or an infection such as sinusitis. If we have an invasion of bacteria or of bacterial toxins produced somewhere else in the body we may have produced in the vascular system an inflammation. We will then have a clogging of the glomeruler system due to the presence of bacteria, epithelial cells and the various other products of inflammation. Immediately we have a reduction of the proper supply of blood and a retention of the nitrogen compounds.

If the glomeruler inflammation is not soon conquered we will have a tubular disease following. The tubular system depends for its nutrition upon the blood furnished by the glomeruli, and when a glomeruli is put out of business, the tubule belonging to it goes also. We mention this sequence in order to point out a very necessary step. All efforts should be made to make a diagnosis of glomeruli systemic disease before a tubular systemic disease has become apparent.

Remember that in dealing with a disease of the vascular system of the kidney we have a retention of the nitrogen compounds in the blood. In tubular disease we have a retention of the chlorides. These two facts point to the proper procedures in making a differential diagnosis. Also remember that in nephrosis we also have the presence of the lipoids in the urine, a thing that does not happen in the vascular disease save as the latter has preceded and is now an overlapping of the tubular disease.

In dealing with nephrosis, or disease of the tubular system, when the tubular epithelium is degenerated and cannot remove the chlorides we find that they are stored up in the body tissues for a temporary period. Large amounts are often stored up in the subcutaneous fibrous tissues. Later they are picked up and carried back to the kidney for final disposal. In the meantime we have produced an edema of varying proportions due to the attraction of water to the chlorides.

Before dealing with the technic of medical diathermy we would call attention to two very serious errors that are often made. It is very common, when a kidney disease is diagnosed, to start a flushing out process. When we have a sick vascular system, one that is already clogged and the heart is beginning to feel the brunt of the burden in trying to push more blood through this diseased area, it is a serious mistake for us to order more fluids and thus almost drown the patient. What he needs in these cases is relief and the way to get it is to reduce the fluid intake for the time being. Water is filtered through the glomeruli and when they are sick they need rest.

In nephrosis the opposite is true. Here we want to dump into the tubules all the fluid possible in order to wash out the products of inflammation and the soluble chlorides. Again in nephrosis where we have a retention of chlorides and the body is already overloaded with them and we want to force the present stock out of the system, it is poor policy to keep feeding large amounts of them at the same time,—and this is what we do when we place such patients on a milk diet.

In treating kidney diseases no one method of therapy can or will accomplish all the desired results. Every individual is a case and no two cases are exactly alike. Diathermy or internal heat will help to accomplish a great deal even in cases which would otherwise be hopeless, provided it is properly applied. As we have said before, machines cannot treat, they can be of great service if properly applied. Proper application cannot be made unless one understands his machine and understands the pathology which he desires to treat. This combination cannot be delegated to a nurse or technician.

In nephritis where we have the clogged glomeruli and the circulation is slowed or stopped we need heat locally through the kidney. We want to relieve this congestion and promote blood and lymph flow. We know that there is nothing that will accomplish this better than heat, and the only way we can apply heat to the kidneys is by the method known as diathermia.

One precaution should always be considered, that of overheating the heart. A fatigued or strained heart is very susceptible to heat if applied in too great quantity. On the other hand, it will often respond to a marvelous degree if we "steal in" with our heat by beginning very low and increasing very slowly. This fact must always be born in mind when treating the left kidney.

In uncomplicated nephrosis we do not have the vascular congestion but more of a tubular blocking and a lack of function of the tubular epithelium. Local heat will stimulate and bring more nutrition to the tubular area, and at the same time increase the amount of secretion from the glomeruli. We want to wash out the tubules in these cases, consequently, we would use diathermy locally over the kidneys and increase our fluid intake.

In nephrosis, we also have besides the local kidney trouble, a retention of chlorides in the subcutaneous fibrous tissues. We find that the high frequency current in the form called autocondensation will cause a capillary dilatation all over the system and stimulate the blood to take up the chlorides and thus relieve the subcutaneous tissues. Consequently, in nephrosis, we would use the diathermy method locally over the kidneys and add the autocondensation method. In addition to this we also find that the application of diathermy directly to the lower limbs will help to take care of the edematous tissues. Again care must be used as the edematous tissues cannot stand the amount of heat that normal tissue will and we must be careful lest we cause an injury by burning.

PYELITIS AND URETERITIS

In these conditions we simply use the diathermy current locally over the areas involved in order to get the internal soothing effects of the heat and its consequent tendency to allow the ureter to open up and allow small stones or gravel to pass onward. We had, a year ago, a very typical case of kidney stone colic to deal with, it being so diagnosed by others as well as ourselves. Roentgen-ray showed a distinct blocking of the ureter with kidney gravel or small stones and after placing the patient on the table and passing the diathermy current for a couple of treatments the patient had complete relief, and another x-ray showed the foreign calcified matter had passed on.

CYSTITIS

We have used diathermy in these cases many, many times and we find that it is of inestimable value. We would not neglect antiseptic irrigations and other therapeutic measures, but if diathermia is used along with them, cases of cystitis will often clear up in a short time as compared to the usual case history. In the matter of the application of the electrodes, we generally use one anterior on the abdomen just over the bladder area, and the other either posteriorly or one in the rectum in the male, and in the vagina in the female. The use of small electrodes locally is a much stronger treatment than using it on the back.

URETHRITIS

The cases that come for treatment for this condition are generally those of gonorrheal infection. Diathermy has proved to be one of the greatest boons to these victims. We know that gonococci will stand about so much heat and that it does not take a very high temperature to obtain a lethal effect. It is estimated that gonococci are instantly destroyed at a temperature of 114 degrees, and that a prolonged temperature of 104 degrees will also destroy them. It is a matter of common knowledge that after some high fever, a urethritis will disappear. Before diathermy was discovered it was known that the treatment of gonococcal infection by heat was a rational procedure, and heated sounds were tried. However, as it was not practical to maintain a steady temperature for a sufficient period to be effective, this treatment was never found very successful.

We have found that with the use of diathermia and with long treatments we can clean up this dread infection. Clinically the uses of diathermia in gonorrheal infection of any part or of all of the genito-urinary system has proved successful.

As for the technic of urethral treatments we have several forms of apparatus whereby the penis in the male may be enclosed between two metal plates. Another technic is to insert a metal urethral sound and have it attached to one pole of the diathermy machine, the other pole going to a pad on the abdomen or on the back. It is a good plan to alternate the position of the external electrodes.

There is on the market now a urethral sound so made that a thermometer can be inserted within it, giving a fair idea as to the temperature being generated.

Personally, we are a strong believer in the fact that instrumentation of the urethra often makes the infection worse, and for that reason we try the external methods first. If one hasn't electrodes made purposely for this work, good results can be had by placing one electrode under the sacrum and then immersing the glans in a glass of water there being another electrode in the bottom of this container.

EPIDIDYMITIS AND ORCHITIS

Our treatment for infection of these organs is the same as just outlined, using the electrodes made for it or using the water bath as one electrode. One danger exists in using the direct electrodes, one metal above and one below the scrotum, the tubules can be very easily harmed by too much heat. *Care must be used.* By using the water method technic this danger is greatly eliminated and the results are practically as good, especially if very long treatments are given.

VESICULITIS AND PROSTATITIS

The treatment of these two conditions is practically the same. When the vesicles are involved the thing to remember is to insert the rectal electrode about four inches. In chronic infections, or old ones, it is a mighty good plan to give the prostate and vesicles a thorough and complete course of treatments no matter what other organs are involved.

In giving the diathermia treatment we should turn the current on until there is a sensation of warmth. Leave it at this point until no further heat develops and then if not up to the patient's tolerance, gradually but slowly increase the amount of current.

In the acute type of disease of the genito-urinary system, never use diathermia to its limit. It will often make an acute case much worse, as the increased hyperemia becomes a mechanical form of trauma. Slight heat for the first few treatments will often reduce an acute case very rapidly so that a more active method may be used and the infection thus conquered can be readily overcome.

While we are not dealing with other diseases in this chapter, yet we would call attention to the great value that often results in cases of arthritis, if the immediate complaint is considered only secondary and the prostate is treated for an old infection. The prostate is often a hidden source of infection and it is almost as often overlooked.

Also, whenever the infection of the genito-urinary organs is of the tubercular type we would call attention to the great value of x-ray therapy as a part of the course of treatment to be considered. Again, the ultraviolet ray from the quartz mercury vapor lamp is sometimes of inestimable value as a part of the treatment to be considered.

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(Continued on page 29)

Book Notices

THE DEVELOPMENT OF THE HUMAN BODY. By J. Playfair McMurrich, A.M., Ph.D., LL.D. P. Blakiston's Son & Co., Philadelphia, Pa.

This new seventh edition of an old standard text I have found readable, teachable and very practical for many years, gives the old basic biological theories clearly expressed as ever it did and adds the results of more recent research, giving reference literature following the chapters—a convenient plan which is greatly desirable.

The text material is well arranged, concise and the book not too large for the average student. The student who is interested only in gaining a professional education simply hasn't the time to consider every subject from the research viewpoint. Some texts are therefore entirely too extensive to be of practical use in teaching. The cuts are many, good and well selected to suit the descriptive matter. A feature I have always liked in this McMurrich work is its descriptive matter and figures directly applicable to the understanding of many things one meets in practice. I refer to such things as fetal circulation and its anomalies, cleft palate, etc.

The development of the circulatory, lymphatic and osseous systems is particularly well described in this edition.

Embryology is a subject often neglected or carelessly taught and for this reason not always enjoyed by students and almost wholly neglected by physicians. This is a mistake. For the osteopathic student and doctor the problems of embryological development and biology constitute the very basis of understanding. A knowledge of these subjects answers the why of so many things.

J. D.

KER'S INFECTIOUS DISEASES: A Practical Textbook. Revised by Claude Rundle, O.B.E., M.D. (Lond), D.P.H., Medical Superintendent, City Hospitals and Sanatorium, Fazakerly, Liverpool, and Lecturer on Infectious Diseases to the University of Liverpool. Third edition. Cloth. Price, $10.50. Pp. 614, with illustrations. New York, Humphrey Milford, Oxford University Press, 1929.

This book deals with the results of research since the period of the Great War, more particularly in relation to scarlet fever, diphtheria, and measles, and prevention and treatment of disease.

A REFERENCE HANDBOOK FOR NURSES. By Amanda K. Beck, R.N., Graduate of the Illinois Training School for Nurses. Sixth edition, revised. Pp. 316, with illustrations. W. B. Saunders & Co., W. Washington Sq., Philadelphia, 1929.

The revision for the sixth edition has been carried out with the conscientious purpose of keeping the book abreast of recent progress in medicine and nursing. New methods which have been approved by the experience of leaders in the medical and nursing world have been introduced. That which has become standardized has been retained.

GASTRO-INTESTINAL DISEASES. Lectures delivered at the James Mackenzie Institute for Clinical Research, St. Andrews, winter session, 1927. Edited by Professor David Waterston, M.A., M.D., F.R.C.S. (Edin.), Bute Professor of Anatomy, University of St. Andrews. Cloth. Pp. 276, with illustrations. Price, $3.25. Oxford University Press, New York City, 1928.

This volume deals with various aspects of one subject, gastro-intestinal disorders.

ENDOCRINE DISORDERS. By Professor Hans Curschmann, Director of the Medical Clinic, University of Rostock, I.M., with an introduction by Franz Prange, Doctor of Medicine and Philosophy; Assistant at the Medical Clinic, University of Rostock, I. M. Cloth, Price, $4.00. Pp. 188, with illustrations. Humphrey Milford, Oxford University Press, New York City, 1929.

This book is designed as a clinical manual grounded on Dr. Curschmann's rather wide personal experience. It will give the theoretical as well as the practical reader what he chiefly requires: pathogenesis, symptomatology and treatment.

SOME PRINCIPLES OF MINOR SURGERY. By Zachary Cope, M.S., M.D. (Lond.), F.R.C.S. (Eng.); Surgeon to St. Mary's Hospital, Paddington, and to the Bolingbroke Hospital. Cloth. Pp. 159, with illustrations. Price, $3.50. Oxford University Press, New York City, 1929.

This book stresses certain elementary general principles. It is meant chiefly for postgraduates who will be able to appreciate where orthodox views are departed from. There is an attempt to summarize the views of Kanavel.

THE TREATMENT OF FRACTURES AND DISLOCATIONS IN GENERAL PRACTICE. By C. Max Page, D.S.O., M.S. (Lond.). F.R.C.S., Surgeon to St. Thomas' Hospital; Surgeon to the Victoria Hospital for Children, Tite Street, and W. Rowley Bristow, M.D., B.C. (Lond.), F.R.C.S., Surgeon to the Orthopedic Department, St. Thomas' Hospital; Surgeon to St. Nicholas Country Hospital for Children, Pyrford. Third edition. Cloth.. Pp. 284, with illustrations. Price $4.25. Oxford University Press, New York City, 1929.

The aim of this work is to be a practical help in dealing with fractures. Line drawings have been inserted to replace skiagrams.

ARTIFICIAL SUNLIGHT AND ITS THERAPEUTIC USES. By Francis Howard Humphris, M.D. ((Brux.), F.R.C.P. (Edin.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), L.M. (Rot., Dublin), D.M.R. and E. (Cantab.), Hon. Consulting X-ray Physician to the American Hospital in London, Hon. Consulting X-ray physician and Electrotherapist to Christ's Hospital. Fifth edition. Cloth. Pp. 340, with illustrations. Price, $3.25. Oxford University Press, New York City, 1929.

The employment of artificial sunlight is becoming so widespread, it behooves us to see that its use is more rational and more definite and that its administration be based on clearly defined reasons;—this is the end in view of this book coupled with an endeavor to bring the subject matter up to the present date.

THE PRINCIPLES OF ELECTROTHERAPY AND THEIR PRACTICAL APPLICATION. By W. J. Turrell, M.A., D.M., B.Ch. (Oxon.), D.M.R. and E. (Cantab.), Consulting Physician, Oxford County and City Mental Hospital. Second edition. Cloth. Pp. 413, with illustrations. Price $4.75. Oxford University Press, New York City, 1929.

Chapters have been added on the history of medical electricity, on the accidents liable to attend its administration, and on the practical details of its application. Special attention is drawn to the remarkably good results that have followed the application of diathermy in the treatment of pneumonia. The chapter on ultraviolet radiation is extended. The scope of radiotherapy is dealt with. Special attention is called to the work of Professor Jellinek on death from high voltage electricity.

Colleges

CHICAGO COLLEGE OF OSTEOPATHY

July and August are the vacation months for our official family. D. B. Heffelfinger, our cashier, spent the latter part of July in Michigan where he pondered the problems of high water and transportation.

Mrs. A. M. Kanous, secretary to the dean, believes there is no state quite like Wisconsin, spending one week in Madison and another at Mirror Lake.

Dr. F. F. Peckham, business manager, spent ten days early in August at his fishing club headquarters in Northern Wisconsin near Spooner.

Miss June Beauchamp, secretary of the clinic, will spend the last two weeks of August in acquiring a genuine coat of sun tan on the beaches of Western Michigan providing the beaches are available.

Mrs. Powers, superintendent of nurses, accompanied by Miss Burna, one of our nurses, will inhale the rarer atmosphere of Denver and Colorado Springs the latter part of this month.

Dr. Wells will lay aside the cares of the office of dean for two weeks and get back to nature in a two weeks' motor camping trip through Wisconsin and Minnesota.

The prospects for an increased enrollment for the oncoming year are splendid. Just what the number will be is of course a matter of conjecture, but we are fully confident that if conditions continue favorable in another year we will equal if not exceed our highest previous enrollment. The continued enthusiastic coöperation of student body, faculty, administrative staff and field members can spell nothing short of success and increased attendance. The enrollment this summer reached 61, of whom all but 13 did some didactic work and these were doing their share of clinic treating.

Dr. H. L. Collins took an enforced vacation from his surgical work early in August because of an infected finger.

The new hospital internes, Drs. Thomas Clunis, Keener and Frantz, are busily engaged in acquainting themselves with hospital routine and by the opening of the college year will be quite adept in their respective departments.

Patient Types . . .

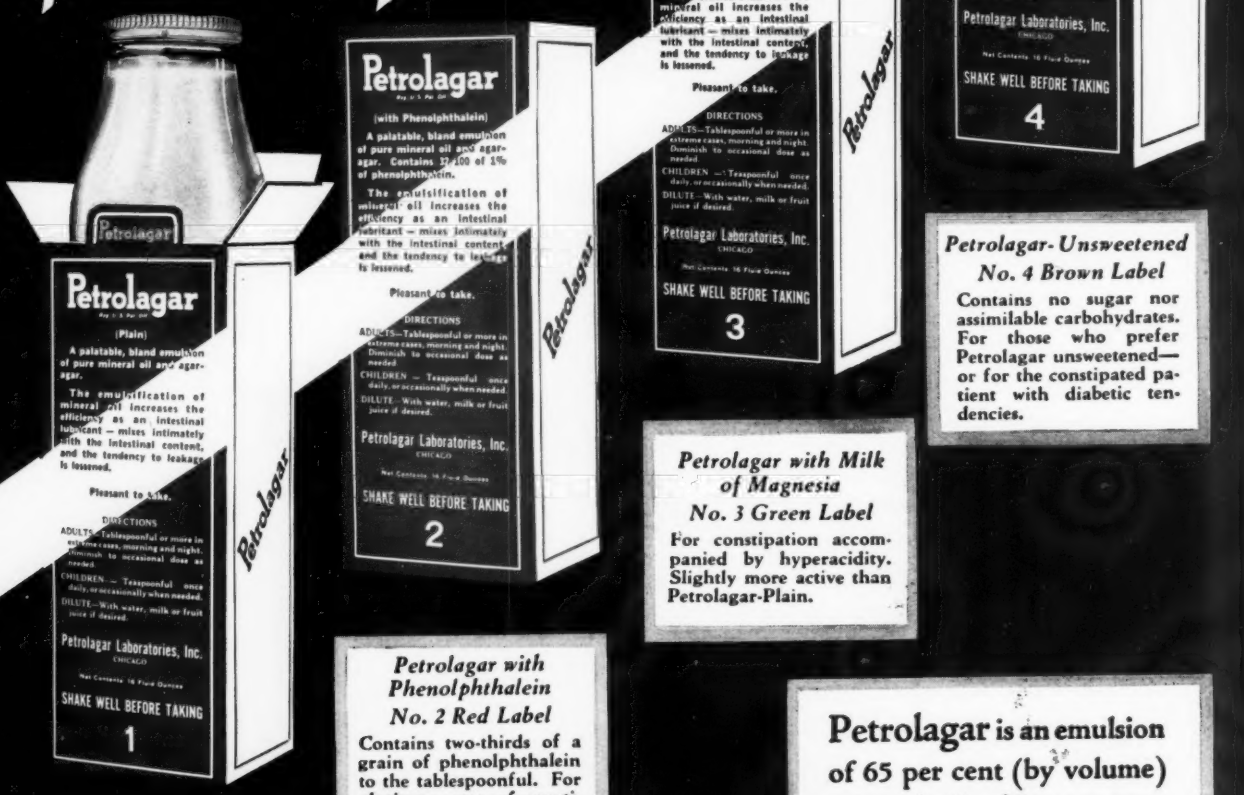
The Rheumatic

Regular and adequate bowel elimination constitutes an essential part of treatment in the majority of patients suffering from the arthritic or gouty diathesis.

The comfortable action of Petrolagar is to be preferred to drastic physic. Petrolagar is pleasing to take and mechanically restores peristalsis without causing irritation and does not upset digestion.

Petrolagar

Why FOUR TYPES


Petrolagar
(Plain)
A palatable, bland emulsion of pure mineral oil and agar-agar.
The emulsification of mineral oil increases the efficiency as an intestinal lubricant – mixes intimately with the intestinal content, and the tendency to leakage is lessened.
Pleasant to take.
DIRECTIONS
ADULTS—Tablespoonful or more in extreme cases, morning and night. Diminish to occasional dose as needed.
CHILDREN — Teaspoonful once daily, or occasionally when needed.
DILUTE—With water, milk or fruit juice if desired.
Petrolagar Laboratories, Inc.
CHICAGO
SHAKE WELL BEFORE TAKING
1
Petrolagar
(with Phenolphthalein)
A palatable, bland emulsion of pure mineral oil and agar-agar. Contains 37/100 of 1% of phenolphthalein.
The emulsification of mineral oil increases the efficiency as an intestinal lubricant – mixes intimately with the intestinal content, and the tendency to leakage is lessened.
Pleasant to take.
DIRECTIONS
ADULTS—Tablespoonful or more in extreme cases, morning and night. Diminish to occasional dose as needed.
CHILDREN — Teaspoonful once daily, or occasionally when needed.
DILUTE—With water, milk or fruit juice if desired.
Petrolagar Laboratories, Inc.
CHICAGO
SHAKE WELL BEFORE TAKING
2
Petrolagar
(with Milk of Magnesia)
A palatable, bland emulsion of pure mineral oil and agar-agar, combined with 8% milk of magnesia.
The emulsification of mineral oil increases the efficiency as an intestinal lubricant – mixes intimately with the intestinal content, and the tendency to leakage is lessened.
Pleasant to take.
DIRECTIONS
ADULTS—Tablespoonful or more in extreme cases, morning and night. Diminish to occasional dose as needed.
CHILDREN — Teaspoonful once daily, or occasionally when needed.
DILUTE—With water, milk or fruit juice if desired.
Petrolagar Laboratories, Inc.
CHICAGO
SHAKE WELL BEFORE TAKING
3
Petrolagar
(Unsweetened)
A palatable, bland emulsion of pure mineral oil and agar-agar. Unsweetened, does not contain sugar nor carbohydrates.
The emulsification of mineral oil increases the efficiency as an intestinal lubricant – mixes intimately with the intestinal content, and the tendency to leakage is lessened.
Pleasant to take.
DIRECTIONS
ADULTS—Tablespoonful or more in extreme cases, morning and night. Diminish to occasional dose as needed.
CHILDREN — Teaspoonful once daily, or occasionally when needed.
DILUTE—With water, milk or fruit juice if desired.
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SHAKE WELL BEFORE TAKING
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Petrolagar-Plain
No. 1 Blue Label

For general treatment of constipation as an adjuvant to a rational regimen of habit time, diet and exercise.

Petrolagar with Phenolphthalein
No. 2 Red Label

Contains two-thirds of a grain of phenolphthalein to the tablespoonful. For obstinate cases of constipation.

Petrolagar with Milk of Magnesia
No. 3 Green Label

For constipation accompanied by hyperacidity. Slightly more active than Petrolagar-Plain.

Petrolagar-Unsweetened
No. 4 Brown Label

Contains no sugar nor assimilable carbohydrates. For those who prefer Petrolagar unsweetened—or for the constipated patient with diabetic tendencies.

Petrolagar is an emulsion of 65 per cent (by volume) mineral oil with agar-agar as the emulsifying agent.

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Gentlemen: — Send me copy of "HABIT TIME" (of bowel movement) and specimens of Petrolagar.

Dr.....

Address.....

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Where you can drink of Nature's Greatest Health Waters

Amid Surroundings of Unsurpassed Comfort and Elegance!

Visitors to this finely appointed, luxurious hotel acclaim it one of the very finest resort hotels in America. Refurnished, redecorated and equipped with unsurpassed elegance, The Elms will appeal to the most fastidious or most critical guest.

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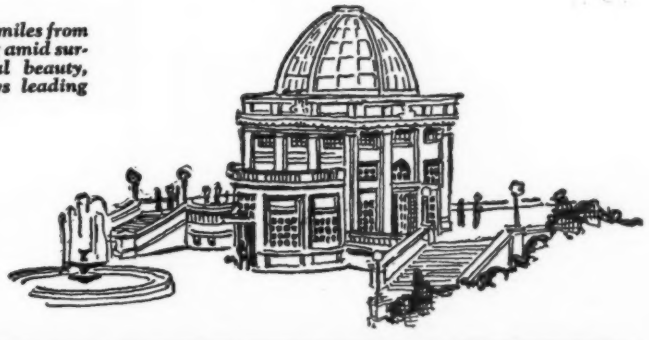
The Elms is only 28 miles from Kansas City, nestling amid surroundings of natural beauty, with paved highways leading in all directions.



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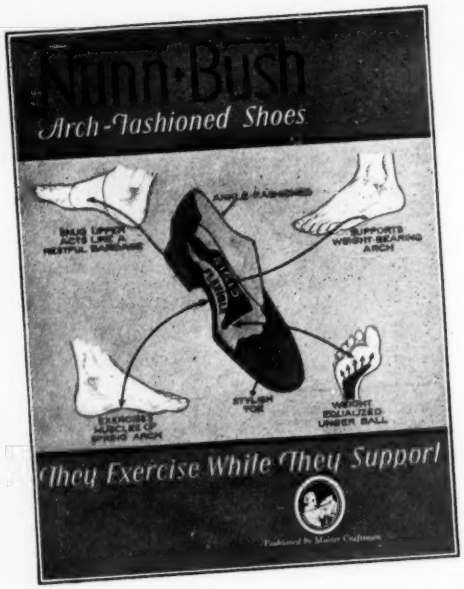

Correct Foot Support
—*flexible inner arch*
—*rigid outer arch*

Nunn-Bush Arch-Fashioned Shoes offer advantages never before combined in a shoe.

They are built with the shank perfected by John M. Hiss, B.Sc., D.O., M.D., to combine all the desirable features of both rigid and flexible arch shoes. They provide rigid support along the outer weight bearing arch and flexibility to exercise the muscles along the inner arch of the foot. In addition, they are Ankle-Fashioned to hug and support the ankle.

These CORRECT Shoes offer new possibilities in the treatment of foot cases.

THE ARGYLE COMBINATION

704—Autograph Arch-Fashioned. Black Russia Calf.

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Return the coupon below for complete information.

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Nunn-Bush & Weldon Shoe Co., Milwaukee, Wis.

Gentlemen: Please send me Free Booklet, "Treatment and Care of the Feet." Also the name of the store where I may inspect these "Correct" Shoes.

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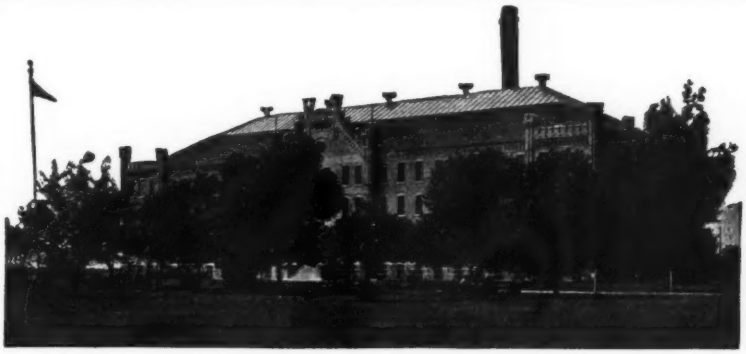
A practical course given by Don Cabot McCowan, D.O., M.D., 1517 Kimball Building, Chicago. Physicians, members of their family, or patients brought in, treated gratis. Students limited, so register in advance.



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MACON, MISSOURI

A great osteopathic institution where nervous and mental patients are cured through genuine osteopathic treatment, hydrotherapy, diet, exercise, etc. After fifteen years of experience this institution emphasizes the fact that osteopathic treatment cures the greatest percentage of the insane of any treatment yet disconvered.

Address all inquiries to the STILL-HILDRETH OSTEOPATHIC SANATORIUM, Macon, Missouri

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for vaginal douching, colonic irrigation or conditions requiring copious and economical lavation?

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THIS hospital was organized seven years ago for the purpose of establishing a place in the EAST where patients might be sent for the *osteopathic*

Treatment of Nervous and Mental Diseases

It soon outgrew its city quarters and now occupies its new, larger buildings, the main building of which is shown above. Its present capacity is 85 patients. A second building will be remodeled within a year, which will make the total capacity about 140.

The buildings are situated on 53 acres of ground, all in a high state of artistic development, with expansive lawns, terraces and gardens.

They give that quietude, freedom, fresh air, sunshine and restful atmosphere which are so necessary to the cure of these mental states.

Fresh vegetables, eggs, milk and butter are supplied; and the hospital has its own artesian wells. The buildings, grounds and equipment represent an

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A corps of competent physicians, nurses and attendants is always at the service of patients.

Diagnostic and X-ray laboratories are complete.

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Dietary regulation, Baths and exercises are supervised by the Medical Staff whose aim it is to cooperate with the attending home Physician of those coming for treatment.

Facilities for golf, tennis, horseback-riding are unsurpassed.

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$2.00 CASH
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A POSITIVE GUARANTEE TO LAST A LIFETIME

Embodying the new Cartridge Tube, along with its other exclusive features, the New Lifetime Baumanometer guarantees the physician a bloodpressure apparatus of profound reliability. Supersedes all other types. It is the Standard of the World.

SHOULD THE TUBE BREAK A NEW ONE IS SENT FREE

The Cartridge Tube slips into its mounting; no adjustments to make; no sending of apparatus to factory. The Cartridge Tube principle guarantees a lifetime of service, but should it in anyway be broken, a new one is sent free.

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The Cartridge tube is guaranteed against breakage for owner's lifetime. Easy to change. No tools; no sending apparatus back. Interchangeability of tubes without impairing accuracy. A new one sent free if it breaks. Rubber parts not guaranteed.

EMPLOYS NATURE'S IMMUTABLE LAW OF GRAVITY INSURING ACCURACY

The unfailing reliability of gravitation method made use of. The scale of every instrument individually hand calibrated, another fundamental of scientific accuracy. Mercury cannot spill; no air-pockets. The variation of other instruments impossible.

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I enclose first payment, $2.00. Send Baumanometer complete on 10 days trial. If I keep it, I will pay balance, $34.00, in 10 monthly payments of $3.40, without interest. I agree title remains in you until paid in full.

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Address.....

For Your Convenience

CALENDAR 1929-1930

FALL SEMESTER 1929

Sept. 9, Monday. Registration in college.
Sept. 10, Tuesday. Classes begin at 8 A. M.
Sept. 23, Monday. Registration ceases for all students.
Sept. 30, Monday. Last day for making changes in program for semester.
Nov. 28, 29, 30. Thanksgiving Holidays.
Dec. 20, Friday. Christmas Holidays begin.

1930

Jan. 6, Monday. Instruction resumed at 8 A. M.
Jan. 20, Monday to Jan. 23, Thursday. Final examinations for semester.
Jan. 24, Friday. Commencement exercises.

SPRING SEMESTER 1930

Jan. 27, Monday. Registration in college.
Jan. 28, Tuesday. Classes begin at 8 A. M.
Feb. 10, Monday. Registration ceases for all students.
Feb. 24, Monday. Last day for making changes in program for semester.
Friday to Monday, Inclusive. Easter Vacation.
May 26, Monday to May 29, Thursday. Final examinations for semester.
May 30, Friday. Commencement exercises.

SUMMER COLLEGE COURSES

June 2, Monday. Registration in Summer College Course.
June 2, Monday. Registration in College for Post-Graduate Course. No fees are required for this course.
June 13, Saturday. Post-Graduate course ends.
July 10, Friday. Final examinations for Summer College Courses.

Kirksville College of Osteopathy and Surgery

GEORGE M. LAUGHLIN, D.O., President
H. G. SWANSON, A.M., Dean

KIRKSVILLE, MISSOURI

The Philadelphia College of Osteopathy

NEW COLLEGE TO BE OPENED IN THE FALL

Thirty-first annual session begins September 18, 1929.

It is expected that the new buildings at 48th and Spruce Streets, Philadelphia, will be ready for occupancy at that time.

FACILITIES: Well organized clinics in the Osteopathic Hospital of Philadelphia where 16,000 student treatments were given during the past year. New buildings, larger class rooms and laboratories. Up-to-date equipment.

FACULTY: Osteopathic physicians of reputation and unusual teaching ability. Also a number of specialists in basic sciences.

PURPOSE: To teach osteopathy in the service of the profession without financial gain. To train physicians for successful competition in practice with the graduates from other schools of therapy.

ADMISSION: Minimum requirement: An approved four-year high school course. Applications should be made early.

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19th and Spring Garden Sts., Philadelphia

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After happy vacations business and professional folk plan for progress. We're planning improvements in the O. M. and O. H. Are you planning to send them to more homes?

Begin your new campaign to extend and deepen local interest in osteopathy with these readable, practical September issues

O. M. Contents THE BREADTH OF OSTEOPATHY—HOT DAYS CALL FOR COOL DISHES—WHAT ARE YOUR FEET WORTH TO YOU? THE RANGE OF OSTEOPATHY—WHY DO MEN DIE SUDDENLY? WHAT IS OSTEOPATHY? BACKS IS BACKS—YOUR TONSILS—PREPARE YOURSELVES.

O. H. Contents WHAT CONSTITUTES OSTEOPATHIC EXAMINATION AND TREATMENT? COMFORTABLE CLOTHING—TEETH VERSUS FEET—"RHEUMATIC" HEART.

HEALTH FACTORS still grows in favor as the handy enclosure for all letters.

American Osteopathic Association, 844 Rush Street, Chicago

MERCY HOSPITAL POLYCLINIC AND POST-GRADUATE COLLEGE

October 7 - 21, 1929

Please note change in date

AT

Mercy Hospital and Sanatorium, St. Joseph, Mo.

MERCY HOSPITAL AND SANATORIUM

THE COURSES:

THE EFFICIENCY COURSE—Dr. C. C. Reid. This course has filled a long felt want among osteopathic physicians, and has made famous the work of the Denver Polyclinic and Postgraduate College. Over 500 doctors have taken this course. It teaches the easiest and most efficient way to conduct a practice; the psychology of handling patients; how to use the various adjuncts; fees; collections; study capitalizing your own personality; handling office help and patients.

EYE, EAR, NOSE AND THROAT—Dr. C. C. Reid. This course is designed for the general practitioner. It will include diagnosis and treatment, ophthalmoscopy, the various forms of deafness, hay fever, finger and surgical technic.

SURGERY, DIAGNOSIS, PROGNOSIS AND TREATMENT—Dr. F. P. Walker. Conservative surgery is an accepted and valuable aid to modern osteopathy. This course will cover diagnosis from the standpoint of physical examination, history, laboratory and x-ray examinations, hospitalization; prognosis; treatment, both preoperative and postoperative. Clinical examinations, taking of histories, complete clinical records, and operations will form an integral part of this course.

NEW TREATMENT FOR VARICOSE VEINS AND ULCERS—Dr. W. H. Gillmore. This is a thorough course in the treatment of varicose veins and ulcers by the new injection method. Thousands of treatments have been given with remarkable success. Dr. Gillmore has given this course many times. It is a course designed for the general practitioner and will enable him to give the treatments.

THE ORIFICIAL COURSE, which includes Ambulant Proctology—Dr. F. I. Furry. This course will include the latest methods of treatment and diagnosis of orificial conditions, and also includes a practical and efficient course in Ambulant Proctology. Dr. Furry is a graduate of the Pratt School of Orificial Surgery, and other courses, and has had twenty years of experience in this field.

EAR, NOSE AND THROAT—Dr. H. J. Marshall. Dr. Marshall will continue the work of this department. His course will include all kinds of ear, nose and throat surgery. These two courses will make an excellent groundwork for the physician who desires to take up this work as a specialty.

VENEREAL DISEASES—Dr. W. P. Lenz. This course will enable the doctor to handle this undesirable class of work in a most efficient and satisfactory manner. Dr. Lenz' personal experience in this field is very wide and he is well qualified to give this work.

THE PRACTICAL LABORATORY—Dr. R. H. Hurst. During the past twelve years Dr. Hurst has constantly used laboratory methods in general practice. His course will include the interpretation of laboratory reports, tests indicated in disease, laboratory tests and technic. The entire laboratory facilities of the hospital will be used for demonstration and clinic use.

PHYSIOTHERAPY—Dr. M. L. Hartwell. This course will embrace the fundamental principles in the use of electrical currents and therapeutic light rays. Careful attention will be paid to the selection of the proper therapeutic agent. The work will include the use and technic of the Ultra-Violet, Infra-Red, Diathermy and others; demonstrations; and work on clinical patients. Colonic Irrigation will also be included.

The class will be limited.

Tuition for the entire course, two weeks, fifty dollars. Ten dollars registration fee due upon registering. Balance due October 7.

Replies already received indicate that the class will soon be filled.

The clinic is being well organized, and will be able to care for any patients you may send for clinical examination and treatment.

Note the change of date, October 7 to 21.

Dr. A. J. Blair is in charge of the x-ray department, and in addition during the clinic he will have charge of the operating rooms.

Dr. H. M. Husted has been associated with Dr. Walker for the past year, and will assist in the eye, ear, nose and throat courses and operations.

Dr. Forrest Kendall has recently become associated with Mercy Hospital as head of the laboratory department. During the clinic he will have charge of routine examinations and will assist Dr. Hurst.

Address correspondence to

Dr. F. P. Walker, President, Owner and Chief Surgeon

Mercy Hospital, St. Joseph, Mo.

"Remember, doctor, send us your patients for clinical examination and treatment. Don't forget the date, October 7 to 21."

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during the

SEVENTH AMBULANT PROCTOLOGIC CLINIC

at

The Norwood, Mineral Wells, Texas

September 2 to October 5

FOR all patients with any form of ano-rectal diseases, fistulae, fissure and all forms of piles, including those with large, protruding masses about the rectum.

PEOPLE now travel across the United States to avail themselves of the services of an ambulant proctologist, because this system is being recognized as the most successful method of treating all rectal diseases. Treatment or operations are performed by Dr. Norwood in the presence of only fifteen physicians.

DOCTOR, this is an opportune time for your patients to obtain successful service if needed, and at the same time to enjoy the advantages of the Health Resort. A wire will give you service in the present clinic. Blanks for enrollment will be mailed to you or your patient.

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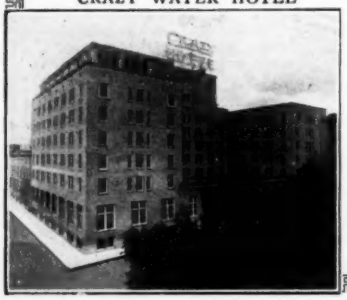

Send us your friends, and, when they mention your name, we will gladly give them our advice as to the use of the various mineral waters, baths, etc., without charge.

DRS. NORWOOD AND BROWN
MINERAL WELLS, TEXAS

MINERAL WELLS HOTEL

CHANGES OF ADDRESS
(Continued from page 45)

Kehr, J. D., from 38 S. Main, to Room 404 Hutter Bldg., Fond du Lac, Wis.

Kuhnley, W. F., from 116 N. Stone Ave., to 122 N. Stone Ave., Tucson, Ariz.

LaRue, Byron, from Zanesville, Ohio, to General Del., Jacksonville, Fla.

Lauer, Marcia Agnes, from Highland Park, Ill., to 393 Roger Williams Ave., Ravinia, Ill.

Lay, T. H., from Blackwell Nat'l Bank Bldg., to 405 Hays-Kennedy Bldg., Blackwell, Okla.

Lenz, Wm. P., from 412 Kirkpatrick Bldg., to 223 Kirkpatrick Bldg., St. Joseph, Mo.

Lewis, Agnes, from 407 Oregon Bldg., to 408 Oregon Bldg., Salem, Ore.

Livingston, A. S., from Allas, Mo., to Frances Bldg., Brookfield, Mo.

McAllister, Joan, from Los Angeles, Calif., to 485 Waterloo Ave., Guelph, Ontario, Canada.

McPheeter, W. P., from Excelsior Springs, Mo., to Colfax, Iowa.

Manhart, C. K., from 941 S. Norton Ave., to 6268 Warner Dr., Los Angeles, Calif.

Marshall, Roger W., from Webster Grove., Mo., to Box 254, Council Grove, Kansas.

Miller, Clara MacFarlane, from 1374 Broadway, to 1213 Lafayette St., Alameda, Calif.

Mills, Charles E., from 7 Stout Bldg., to 915 Peoples State Bank Bldg., Pontiac, Mich.

Moury, Dean H., from 944 Edgar Ave., to 5548a S. Grand Blvd., St. Louis, Mo.

Murphy, R. W., from 705 Main St., to 802 Main St., Daytona Beach, Fla.

Owen, E. H., from Brookfield, Mo., to 100 B Independence St., Harrisonville, Mo.

Phelan, Jennie E., from 306 E. 8th St., to 641 W. First St., Long Beach, Calif.

Phillips, Grant E., from 108 N. Madison Ave., to 127 S. Los Robles Ave., Pasadena, Calif.

Pickerell, A. L., from 6416 E. 16th St., to 6416 E. 15th St., Kansas City, Mo.

Pigott, Adalyn K., from 44 Coast Highway, Montecito, to 1010 Coast Highway, Montecito, Santa Barbara, Calif.

Polley, Mabel A., from 1931 East 3rd St., to 2729 De Soto St., Long Beach, Calif.

Pratt, Clarence T., from Portland, Me., to Box 124, Bridgton, Me.

Remsberg, Harmon W., from Chicago, Ill., to 126½ N. Main, Hutchinson, Kansas.

Richardson, R. A., from Box 375, to 252 Werby Bldg., Kansas City, Mo.

Risser, Clay Kenneth, from Danville, Iowa, to Wherry Block, Maquoketa, Iowa.

Rose, George Otto, from Chicago, Ill., to 117 Division St., Galesburg, Ill.

Ross, Robert W., from Des Moines, Iowa, to 1100 Cedar Ave., Elgin, Ill.

Rouzer, H. H., from 227½ W. Center St., to 189½ E. Center St., Suite 3, Dr. Dugan Bldg., Marion, Ohio.

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will tell you why he approves this shoe

THE human foot, how it is built and how it works, is a fascinating story. Have your osteopathic physician tell you of its marvelous construction, its three flexible arches, its 26 bones, and how they function. He will show you why sound feet are so essential to your well-being and why Cantilever Shoes help your feet to health.

For these shoes are made to conform to the natural shape of the foot. The toes have ample room—no cramping or crowding. The heel fits snugly without slipping. And, most important, the flexible shank of Cantilever Shoes cradles the arch of the foot in a firm yet elastic support that really strengthens the foot muscles. Walking becomes a pleasure in Cantilever Shoes.

And they are so expertly styled that you will have the pleasure of well-dressed feet, in addition to greater foot comfort than you have ever known.

If you wish further information on the corrective features of the Cantilever Shoe, we shall be pleased to furnish you with an informative brochure, "The Feet and Their Relation to Anatomical Disorders." Please write to the Cantilever Sales Corporation, Dept. B-1, 410 Willoughby Ave., Brooklyn, N. Y.

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OTOLOGY DEPT. ..... (Including Equilibrium)
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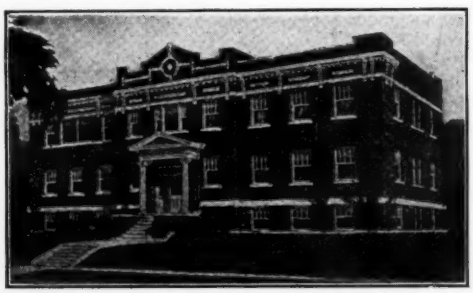
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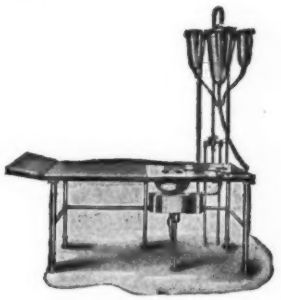

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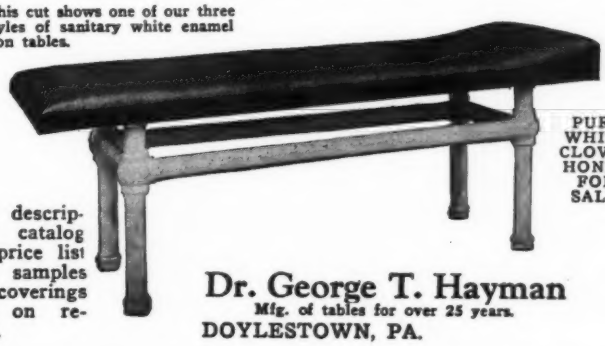

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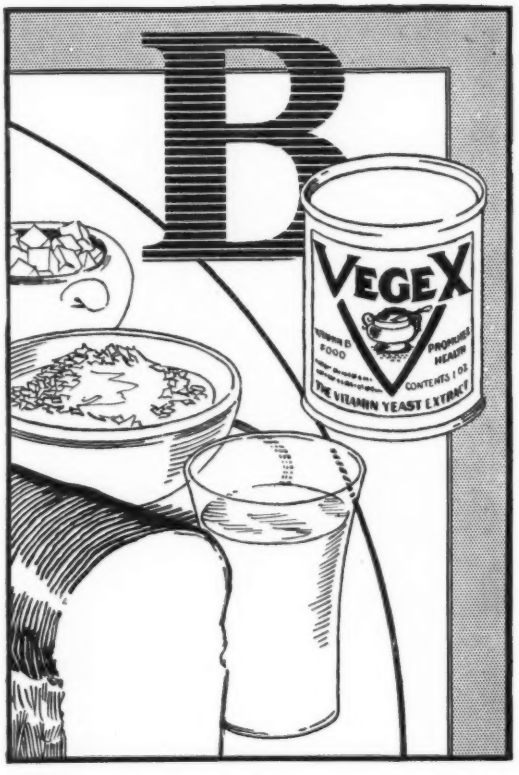

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